

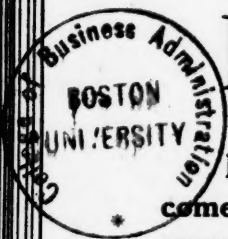
Manufacturers Record

Industry Construction



\$6.50 per Year
Single Copy, 20 Cents

Baltimore, Md.
JUNE 18, 1931



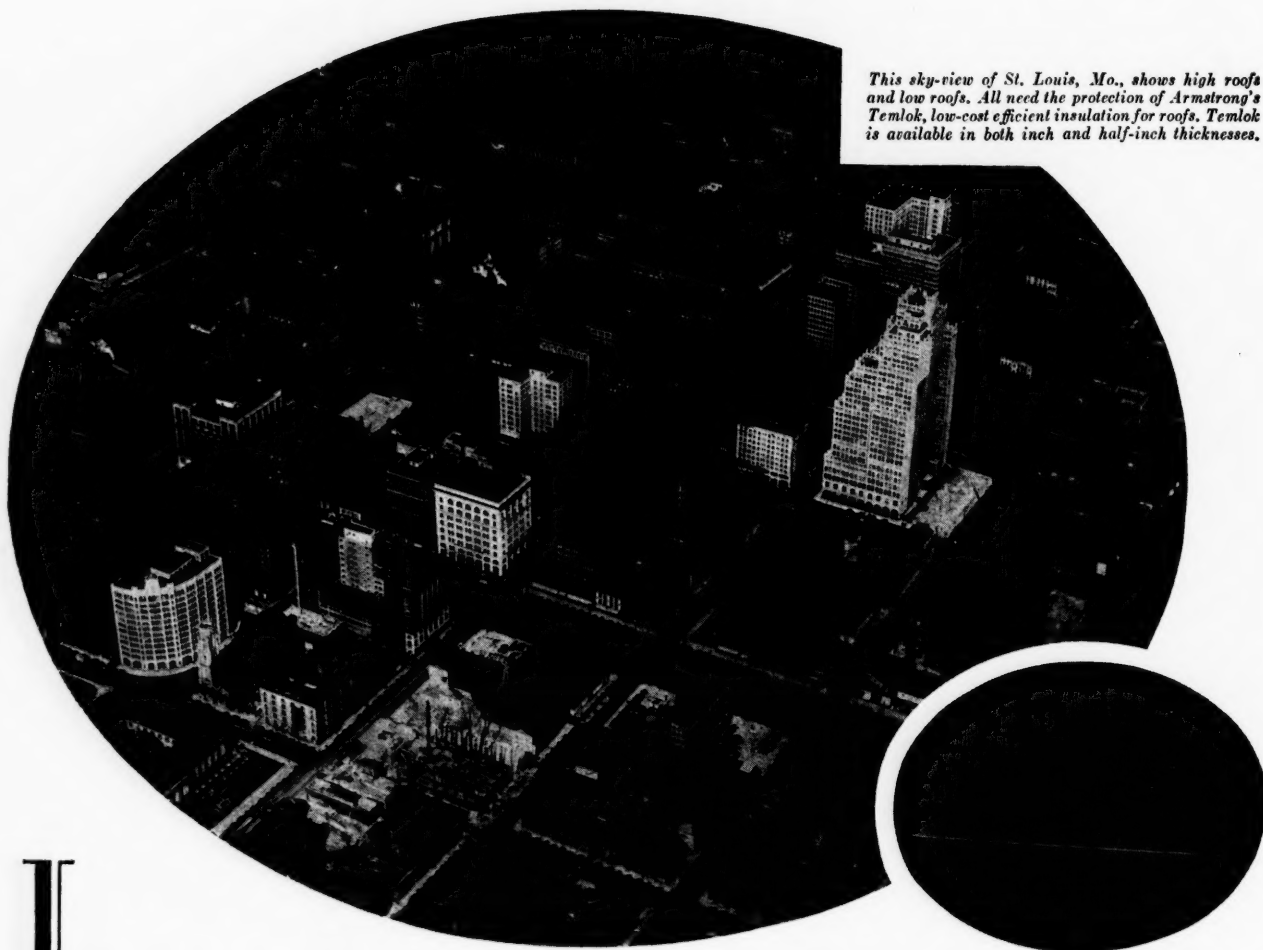
Injurious Price Cutting

Protests against unreasonable and destructive price cutting continue to come from various quarters. More than one branch of business is being adversely affected by a course that has nothing to commend it. The effect is quite the reverse.

The Manufacturers Record said a few weeks ago: "Reducing production costs to sell at a lower price is sound business; to slash prices very evidently below the cost of production is exactly the opposite. Cut-throat competition is detrimental to an entire trade. It undermines confidence and will increase unemployment. The question of enabling producers to protect themselves against ruinous competition demands prompt and effective consideration."

The individual manufacturer, by following sound business practice, will help to strengthen an entire industry of which he is a part and aid in stabilizing business generally. Below-cost price-cutting methods to secure a competitor's customer is reprehensible and to be condemned as unbusiness-like and unwise from every standpoint.

The cement industry, the textile industry, the lumber industry and other industries have too frequently found of late that their hopes for a stabilized market have gone astray because of the actions of the below-cost price-cutter. Producers have a right to object if one of their number follows a destructive course, just as the State has a right to object in the case of an individual. This is true because of the effect upon the community at large. The manufacturer who sells his goods below cost of production could very well be ignored if his action affected himself alone, but it tends to undermine the industry and ruins general business. It is a disturbing element. It is a destructive program.



This sky-view of St. Louis, Mo., shows high roofs and low roofs. All need the protection of Armstrong's Temlok, low-cost efficient insulation for roofs. Temlok is available in both inch and half-inch thicknesses.

If top-floor tenants complain insulate your roof with *Temlok* *Armstrong's new low-cost and efficient fibre board*

"YOU won't catch me paying rent for top-floor offices unless I'm guaranteed comfort all year long—year after year."

When tenants talk like that, building owners realize they can't give this guarantee until they've protected the roof with good insulation. And good insulation means insulation that resists moisture. Unless it resists moisture, as Armstrong's Temlok does, it fails to provide comfort, save fuel, and protect the roof deck for any length of time.

Resistance to moisture is one of the outstanding qualities of Temlok, Armstrong's new low-cost fibre insulation. Repeated tests have proved its extremely

low moisture absorption—assurance of lasting efficiency.

Armstrong's Temlok, fabricated from the heartwood of Southern pine, also has low conductivity; is light in weight, structurally strong, and easily handled.

To do the job right, we recommend at least a solid-inch of Temlok. Temlok also is available, however, in the half-inch thickness to meet the requirements of those who wish to apply layers of half-inch insulating material.

Perhaps you'd like further proof of Temlok's quality—and its low cost. May we suggest, then, that you write to us for samples and complete data? There is no obligation. Armstrong Cork & Insulation Company, 944 Concord St., Lancaster, Pa.



Armstrong's Temlok

Low-cost, Efficient Insulation for Roofs

Entered as second-class matter at the Postoffice, Baltimore, Md., under the act of March 3, 1879.

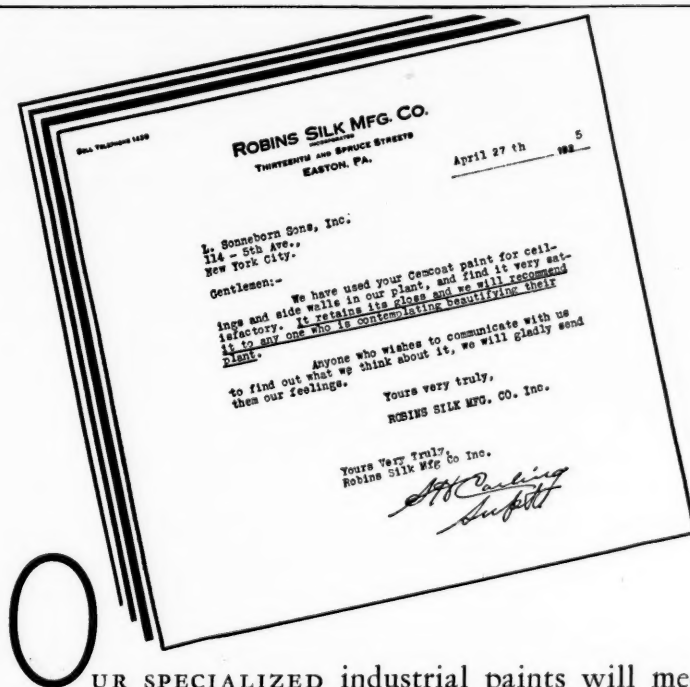
L. SONNEBORN SONS, Inc.

GUARANTEED PRODUCTS

Made for Your Specific Needs

Sonneborn Paints

PROTECT



OUR SPECIALIZED industrial paints will meet most of your requirements for lasting protection of walls, floors, roofs, machinery, boilers, stacks and all interior and exterior surfaces.

Proved and tested in thousands of plants and factories, these paints have been perfected until each stands unrivalled for its purpose—a fact attested by countless endorsements from technical men all over the country.

But we do not stop with our regular lines of paints. Our experts are at your service for any *unusual* painting job that you have to do. Whatever your problem, consult us. There will be no obligation. We'll get together with you and produce exactly the *right* paint for *your* job. If necessary, we'll make a paint especially for you.

And remember—Sonneborn works with you for economy and keeps the cost down. Write us today about your painting needs and let us send you detailed information.

L. SONNEBORN SONS, Inc.
114 FIFTH AVENUE, NEW YORK

Some SONNEBORN PRODUCTS

LAPIDOLITH

The original liquid concrete floor hardener. Binds loose particles into a close-grained mass, smooth and granite-hard. Stops dusting and crumbling.

LIGNOPHOL

For finishing, preserving and wearproofing wood floors. Penetrates wood with life-giving gums and oils.

CEMCOAT FLOOR ENAMEL

Interior and Exterior Paints
For all types of floors. Produces a durable, dustless, sanitary, high-gloss finish. Comes in colors.

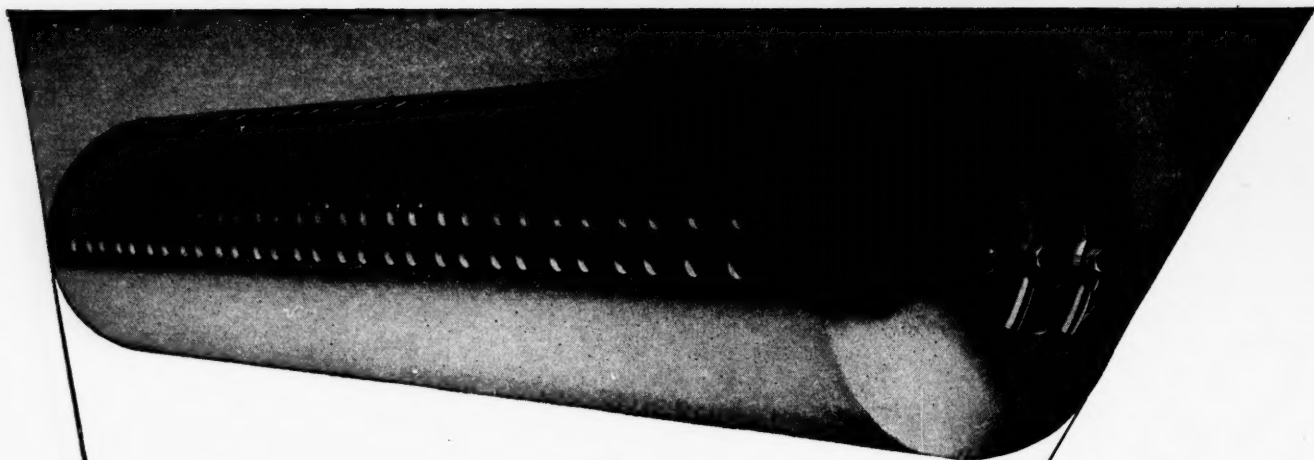
HYDROCID COLORLESS

A waterproofing for exposed exterior walls that carries waterproofing material into brick, stone or cement.

MAINTENANCE PAINTS

For All Purposes
Complete line for interior and exterior surfaces and for machinery, boilers, tanks, stacks, etc.

**MARVELWHITE
CHEMICAL ENAMEL**
Not affected by fumes and gases. Stays white. Can be washed.



Fusion Welded

*and all main welded seams
X-Ray tested for soundness*

Fusion Welding.

The Application of Fusion Welding to Pressure Vessels.

Testing Welded Construction During Production.

Scientific Control in Welding of Boiler Drums.

Develops New Technique in Electric Arc Welding.

Outlook for Welded Boiler Drums Brightens.

Advocates Electric Welding of Boilers.

Welded Boilers.

X-Ray Inspection of Welds in Pressure Vessels.

This all welded boiler drum was fabricated for The Brown Paper Mill, Incorporated, of Munroe, Louisiana. All main longitudinal and circumferential seams of this thirty-six inch diameter drum were welded by the new Babcock & Wilcox process and every inch of every seam has been examined with a powerful X-Ray machine to provide definite proof of the soundness of the welds which are consistently equal to or better than A. S. M. E. boiler plate in tensile strength, ductility, shock resistance, and ability to withstand repeated applications of pressure.

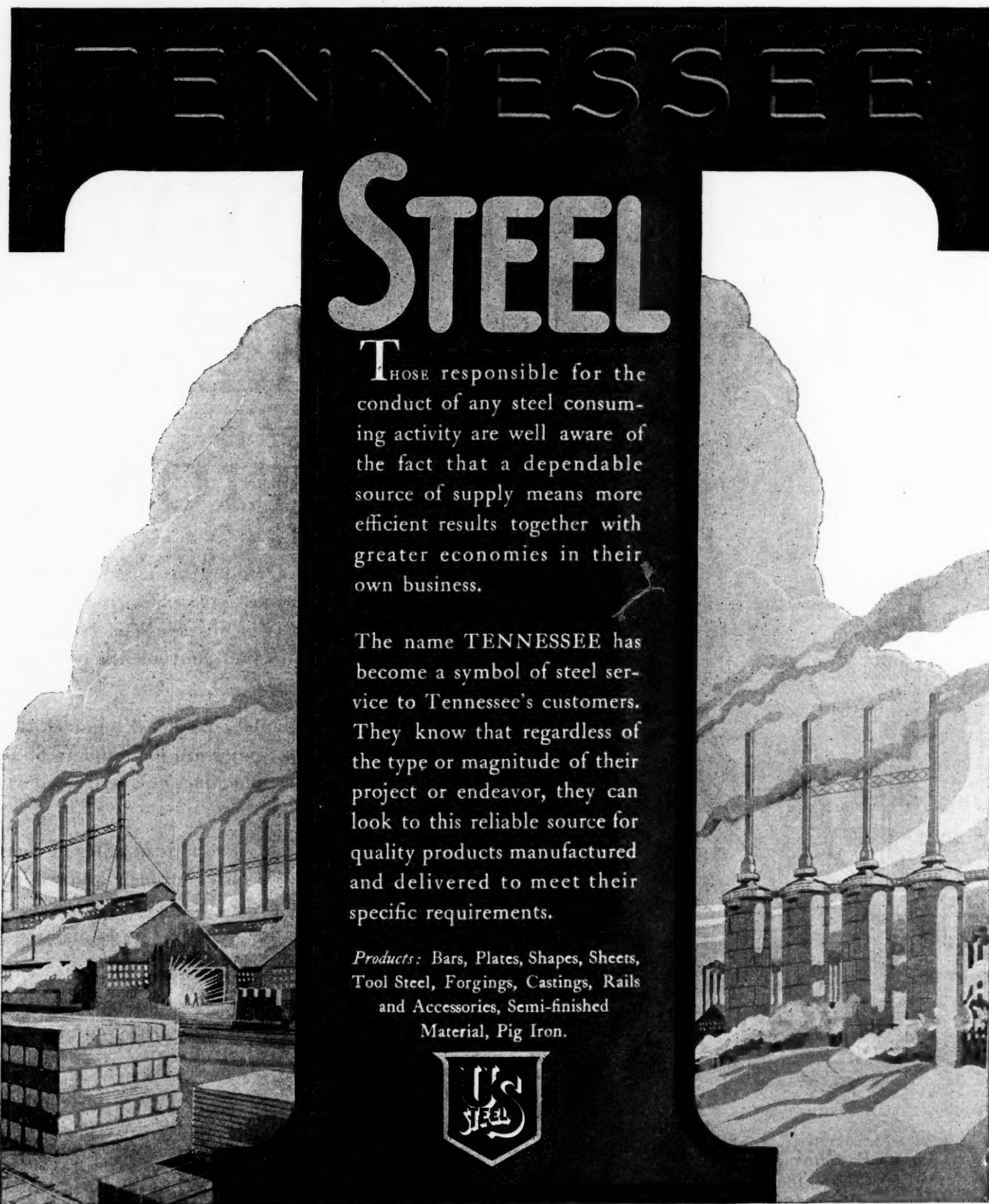
The Company's bulletin *Fusion Welding* describes in detail the characteristics of welds produced by this new technique and shows the tests employed to check the soundness of welds in finished products of all types. In addition to this book, The Babcock & Wilcox Company will send, without obligation, a series of articles on fusion welding written by leading writers for the technical press.



Pending adoption of the proposed A. S. M. E. Code for welded boiler drums The Babcock & Wilcox Company offers this construction only in Non-Code States and subject to the approval of the boiler insurance companies.

**THE
BABCOCK & WILCOX
COMPANY**

85 LIBERTY ST. NEW YORK, N. Y.




TENNESSEE STEEL

THOSE responsible for the conduct of any steel consuming activity are well aware of the fact that a dependable source of supply means more efficient results together with greater economies in their own business.

The name TENNESSEE has become a symbol of steel service to Tennessee's customers. They know that regardless of the type or magnitude of their project or endeavor, they can look to this reliable source for quality products manufactured and delivered to meet their specific requirements.

Products: Bars, Plates, Shapes, Sheets, Tool Steel, Forgings, Castings, Rails and Accessories, Semi-finished Material, Pig Iron.



TENNESSEE COAL, IRON & RAILROAD COMPANY

General Offices: Brown-Marx Building, Birmingham, Ala.

Subsidiary of United States Steel Corporation

AMERICAN BRIDGE COMPANY
AMERICAN SHEET AND TIN PLATE COMPANY
AMERICAN SHEET AND WIRE COMPANY
CARNEGIE STEEL COMPANY

PRINCIPAL SUBSIDIARY
COLUMBIA STEEL COMPANY
CYCLONE FENCE COMPANY
FEDERAL SHIPBUILDING AND DRY DOCK COMPANY

MANUFACTURING COMPANIES
ILLINOIS STEEL COMPANY
MINNESOTA STEEL COMPANY
NATIONAL TUBE COMPANY

OIL WELL SUPPLY COMPANY
THE LORAIN STEEL COMPANY
TENNESSEE COAL, IRON & R. R. COMPANY
UNIVERSAL ATLAS CEMENT COMPANY

Pacific Coast Distributors—Columbia Steel Company, Russ Building, San Francisco, Calif.

Export Distributors—United States Steel Products Company, 30 Church Street, New York, N. Y.



CITY BUILDERS

are the
MAKERS
of a
NATION

Modern life and culture centers more and more in cities. People crave comforts and conveniences that only city life can give. No small part of this comfort and convenience is water mains and gas mains.

The men who build pipe lines, build cities. And the builders of cities are the builders of a nation. Should such pipe lines be constructed of any material but the best?

The answer is that thousands of miles of cast iron mains are the arteries through which flow the very life blood of America's cities. Cast iron has a known life for water and gas mains of nearly 300 years.

The Clow-National organization is in position to supply your every need for cast iron pipe.



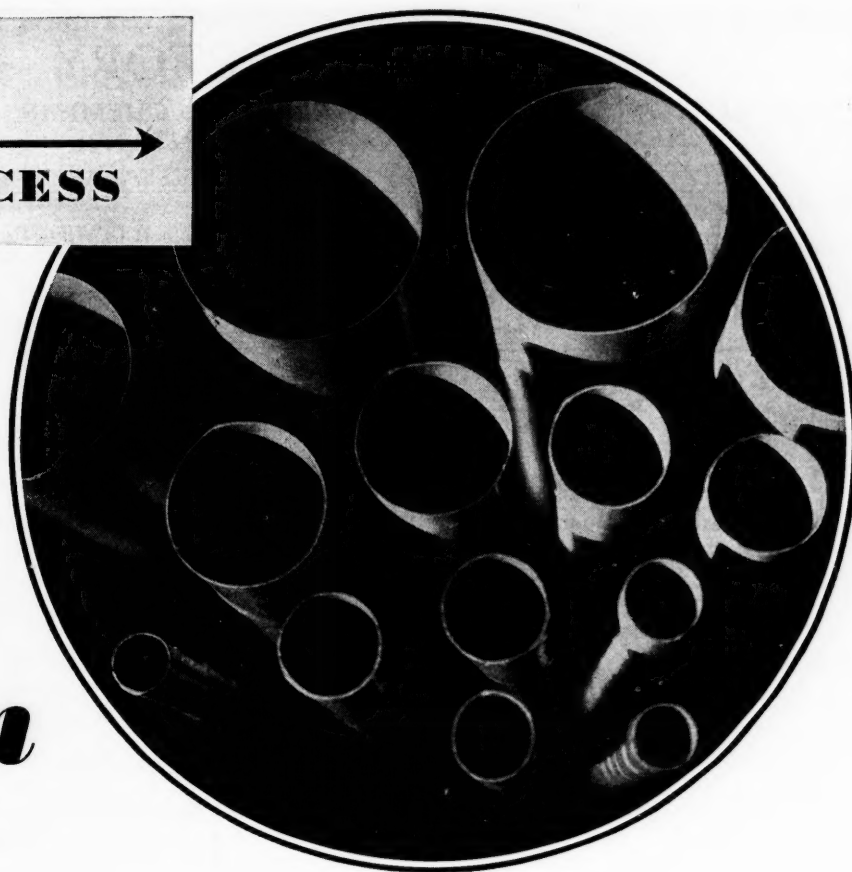
James B. Clow & Sons,
Chicago, Illinois
National Cast Iron Pipe Company,
Birmingham, Alabama

CLOW-NATIONAL
CAST IRON PIPE



EVERYTHING FOR
A PIPE SYSTEM

MADE BY
CONTINUOUS
 —————→
PROCESS



PIPE *Custom Made*

to meet **YOUR INDIVIDUAL NEEDS**

WHEN you buy Armco Spiral Welded Pipe, you pay only for *usable metal*. Foot after foot, section after section, there is not a pound of excessive weight. And yet, stripped down to essentials as it is, not an ounce of needed strength is sacrificed. Armco Spiral Welded Pipe is fabricated from true-gage coil plate, a product of the world's first continuous rolling mills.

The coils are fed into the continuous pipe



machines and helically welded into light, sturdy pipe—pipe as round and straight and smooth inside as a fine gun barrel.

You can obtain Armco Spiral Welded Pipe in section lengths up to 40 feet. Diameters range from 6 inches to 24 inches, and walls from $\frac{7}{64}$ inch to $\frac{1}{4}$ inch. Coatings include mill coating, asphalt-dipped, galvanized, or leadized.

Let us study your pipe requirements and show you how Armco Spiral Welded Pipe will insure better performance at lower cost. Just write to the office nearest you.

THE AMERICAN ROLLING MILL COMPANY

Executive Offices: Middletown, Ohio

Export: The ARMCO International Corporation

District Offices:

Chicago • Cincinnati • Cleveland • Detroit • New York • Philadelphia
 Pittsburgh • St. Louis • San Francisco

LIGHT IN WEIGHT • EASY TO HANDLE • SMOOTH INTERIOR • FEWER JOINTS

DIRECTORY

ARCHITECTS

ENGINEERS

CHEMISTS

GEOLOGISTS

CHEMICAL ENGINEERS

ACCOUNTANTS

CONTRACTORS

Detailed classification of specialized work undertaken by those having cards in this Directory will be found in Classified Index.

Milburn, Heister & Co.

Architects

WASHINGTON, D. C.

Wm. J. J. Chase, A. I. A.

Architect

Public and Commercial Buildings
140 Peachtree St. ATLANTA, GA.

G. Lloyd Preacher & Co., Inc.

Architects and Engineers

501 Mortgage Guarantee Bldg.
ATLANTA, GA.

B. Russell Shaw Co.

INCORPORATED

Consulting and Designing Engineers
AIRPORTS—AIRLINES
Arcade Bldg., ST. LOUIS, MO.

J. B. Converse & Co., Inc.

Engineers

Industrial Investigations, reports,
plans, estimates, supervision.
MOBILE, ALA.

Charlton & Davis

Civil Engineers

MIAMI FORT LAUDERDALE
WEST PALM BEACH

Elroy G. Smith

Consulting and Designing
Civil-Hydraulic EngineerIndustrial Hydro-Electric Development
a Specialty
313-313-A Herald Bldg.,
AUGUSTA, GA.

Hornbuckle Contracting Co.

INCORPORATED

Municipal Improvements
Industrial Village Utilities
ATLANTA, GA.

Harza Engineering Co.

Consulting Engineers

Dams, Hydraulic, Hydro-Electric, Flood
Control and Sanitary Projects
20 N. Wacker Drive CHICAGO

S. E. Huey

Consulting Engineer

Civil, Structural, Natural Gas
Ouachita Bank Bldg., MONROE, LA.
City Bank Bldg., SHREVEPORT, LA.

J. E. Greiner & Company

Consulting Engineers

Design, Construction, Investigation, Ad-
visory Service—Bridges, Docks, Piers,
Warehouses and other Engineering
Structures.
1201 St. Paul St., BALTIMORE, MD.

Whitman, Requardt & Smith

Engineers

Water Supply, Sewerage and Structural
Engineering, Reports, Designs,
Valuations.
Baltimore Trust Bldg., BALTIMORE, MD.
ATLANTA, GA. ALBANY, N. Y.

Chas. T. Main, Inc.

Industrial Engineers

Mills, Warehouses, Complete Develop-
ments.
Electrical, Steam and Water Power
Reports Appraisals
201 Devonshire St. BOSTON, MASS.

C. A. P. Turner

Consulting Engineer

M. Am. Soc. C. E. Reinforced concrete
and Structural Steel Bridges, Buildings,
and Manufacturing Plants.
300 Builders Exchange Bldg.
MINNEAPOLIS, MINN.

Walter H. Wheeler

M.A.S.C.E. and M.E.

Engineers

Mfg. Plants, Buildings, Bridges, Dams,
1000 Met. Life Bldg.,
MINNEAPOLIS, MINN.

Consoer, Older & Quinlan, Inc.

Mems. A. S. C. E.

Consulting Engineers

Water Supply—Sewerage—Industrial
Engineering
317 N. 11th St. ST. LOUIS, MO.
205 W. Wacker Drive, CHICAGO, ILL.

Kansas City Bridge Co.

Established 1893
Builders of Railroad and
Highway Bridges
River Improvement Work
General Office, 215 Pershing Road (Union
Station Plaza), KANSAS CITY, MO.

William S. Lee

Mem. Am. Soc. C. E.; Mem. Am. Soc.
M. E.; Mem. Eng. Inst. Can.; Fellow
Am. Inst. E. E.

Consulting Engineer

535 Fifth Ave. NEW YORK CITY
CHARLOTTE, NORTH CAROLINA

MacElwee & Crandall, Inc.

Industrial and Civil Engineers
Investigations, Reports, Design, Super-
vision—Port Development, Piers, Ter-
minals, Airports, City Planning, Water
Front, Reclamation, Industrial Surveys
Main Office: 11 West 42nd Street
CAMBRIDGE, MASS. NEW YORK CITY

Morris Knowles, Inc.

Engineers

Water Supply and Purification, Sewer-
age and Sewage Disposal, Valuations,
Laboratory, City Planning.
PITTSBURGH, PA.

Gardner & Howe

Structural Engineers

Steel and Reinforced Concrete Buildings,
Bridges and Viaducts
Porter Bldg. MEMPHIS, TENN.
Kirby Bldg. DALLAS, TEXAS

Freeland, Roberts & Co.

Consulting Engineers

Concrete and Steel Structures
NASHVILLE, TENN.

C. N. Harrub Engineering Co.

Member Am. Soc. C. E.
Civil and Sanitary EngineersWater Supply, Sewerage, Paving and
Structural Improvements
705-9 Fourth & First Nat'l Bk. Bldg.
NASHVILLE, TENN.

Engineering Service Corp.

Consulting Engineers

Civil-Electrical-Mechanical-Refrigeration
COLD and DRY STORAGE WAREHOUSE
DESIGNS
Reports—Appraisals—Designs—Surveys
Docks and Harbor Designs—Ind. Engr.
Water Sup.—Sewer Sys.—Oil and Gas Lines
HOUSTON, TEXAS, U. S. A.

Gilbert C. White Co.

Consulting Engineers

Waterworks Paving
SewerageRICHMOND, VA.
DURHAM, N. C.

Robert Cramer

Consulting Engineer

Sewage Disposal Plants and Sewerage
Systems—Utilization and Disposal of
Industrial Wastes, Power Plants,
Design, Construction, Operation, Labora-
tory Service, Valuations and Reports.
647 W. Virginia St.,
MILWAUKEE, WIS.

Smallman-MacQueen

Construction Co., Inc.

Engineers and Contractors

BIRMINGHAM, ALA.

T. C. Thompson and Bros.

Incorporated 1895

General Contractors and Builders
BIRMINGHAM, ALA.
CHARLOTTE, N. C.

Algernon Blair

Contractor

MONTGOMERY, ALA.

Southern Erectors, Inc.

Steel Erectors

ATLANTA, GA.
TAMPA, FLA.

Walker Electrical Company

Electrical Contractors

General Offices: ATLANTA, GA.
Sales Offices:
ATLANTA, GA. COLUMBUS, GA.
GREENSBORO, N. C.

Hoosier Engineering Company

100 W. Monroe St., CHICAGO

Erectors of Transmission Lines
Electric—Gas—OilSmith Tower 225 Broadway
SEATTLE, WASH. NEW YORK, N. Y.

J. V. & R. T. Burkes, Inc.

General Contractors

MEMBER A. G. C. NEW ORLEANS

John Eichleay, Jr. Co.

Steel Construction

Structural Steel
House Raising and Moving
Shoring and Foundation Work
South 20th & Wharton Sts.
PITTSBURGH, PA.

Webb Electric Company

Electrical Contractors

Industrial, Commercial and Institutional
Electrical Installations.
ANDERSON, S. C.

Fiske-Carter Construction Co.

General Contractors

GREENVILLE, S. C.
SPARTANBURG, S. C.

Poe Piping & Heating Co.

Contractors

For Power Piping, Heating and
Sprinkler Systems
108 S. Main St. GREENVILLE, S. C.

Lee A. Gridley Construction Co.

General Construction

CRANE SERVICE—FOUNDATIONS
KNOXVILLE, TENN.

Steel & Lebbey

JOHN A. STEEL, JR.

THOS. D. LEBBEY

Engineers and Constructors
The design and erection of concrete and
steel structures.
Holston Bank Building,
KNOXVILLE, TENN.

The Warner Service Company

Electrical and Mechanical
ContractorsCor. Clinch and Central Ave.
KNOXVILLE, TENN.

Charles W. Alpaugh & Sons

Hydraulic and Construction Engineers

Dams a Specialty: Investigations,
Estimates Free
MANASSAS, VA.

Virginia Engineering Co., Inc.

General Contractors
Government — Municipal — Industrial
Buildings — Power Plants — Heating
Pumping — Electrical — Highways
Sewer and Water Systems — Dams
Fire Protection — Refrigeration
1st Nat'l Bk Bldg.
NEWPORT NEWS, VA.

The John W. Cowper Co., Inc.

General Contractors

State Planters Bank Bldg.
RICHMOND, VA.

J. L. Myers & Sons

Drillers of Shallow and Deep Wells
in the South Since 1894
Box 105, T. C. Station
DENTON, TEXAS

Audit Company of the South

Charles James Metz

President

Mem. American Institute of Accountants
Certified Public Accountant of Georgia
ATLANTA, GA.

Joe B. Martin

Quantity Surveys

CHARLOTTE, N. C.
Sixteen Years Actual Experience

Hills and Youngberg

Engineers

Drainage
Rail and Water Terminals
River and Harbor Improvements
Water Developments—Shore Protection
Investigations and Reports
21 Laura St., P. O. Box 1145
JACKSONVILLE, FLA.

The Howard-Hickory Co.

Nurserymen

Landscape Gardeners
Correspondence
solicited
HICKORY, N. C.

DIRECTORY

ARCHITECTS ENGINEERS CHEMISTS GEOLOGISTS
 CHEMICAL ENGINEERS ACCOUNTANTS CONTRACTORS

Detailed classification of specialized work undertaken by those having cards in this Directory will be found in Classified Index.

The Picard Laboratories

Chemists and Inspecting Engineers
 Inspection of Cast Iron Pipe, Structural Steel, Cement, Railroad Equipment, etc.
 Chemical Analysis of all kinds.
Representation in all Principal Cities
 Clark Building, BIRMINGHAM, ALA.

W. Wade Moss, Jr.

Chemist
 Research and Creative Laboratories
 Development of Industrial Processes
 Special attention given to exploration of Natural Resources of Southern States.
 Lynch Bldg. COLUMBUS, GA.

Stillman & Van Siclen, Inc.

Chemists and Chemical Engineers
 Analysis and Inspection of Asphalt, Paving Materials, Cement, Concrete Building Materials.
 227 Front Street NEW YORK
 BEekman 5261

Barrow-Agee Laboratories, Inc.

Chemists and Engineers
 Analysis tests and inspection of all building and construction materials.
 MEMPHIS, TENN.
 LITTLE ROCK, ARK.
 JACKSON, MISS. SHREVEPORT, LA.

William R. Conard

Inspection and Tests of Materials of Engineering and Construction
 Reports, Designs, Supervision
 Construction
 BURLINGTON, N. J.

Dow & Smith

A. W. Dow, Ph.B.; F. P. Smith, Ph.B.
 Mem. Am. Inst. Ch. Engrs.
 Mem. Am. Soc. Civ. Engrs.
 Chemical Engineers, Consulting Paving Engineers, Asphalts, Bitumens, Cement, Paving Materials
 131 East 23rd St. NEW YORK

The J. G. White Engineering Corporation

Engineers—Constructors

43 Exchange Place

NEW YORK

W. S. BARSTOW & COMPANY

INCORPORATED

ENGINEERING — DESIGN — CONSTRUCTION
 INDUSTRIAL PLANTS — PUBLIC UTILITIES

Consultation Invited on Building Projects

120 Wall Street
 NEW YORK CITY

412 Washington Street
 READING, PENNA.

SANDERSON & PORTER

ENGINEERS

FOR THE
 FINANCING—REORGANIZATION—
 DESIGN—CONSTRUCTION
 OF

INDUSTRIALS and PUBLIC UTILITIES

CHICAGO

NEW YORK

SAN FRANCISCO

Scofield Engineering Company

Consulting Engineers

POWER AND INDUSTRIAL PLANTS AND PROCESSES.
 Design—Supervision—Valuations.

Commercial Trust Bldg.,

PHILADELPHIA

J. E. Serrine & Company

Engineers

Factory Design: Hydro- and Steam-Electric Plants; Warehouses,
 Steam Utilization, Sewage Systems, Appraisals, Valuations, Reports.
 General Offices: GREENVILLE, SOUTH CAROLINA

Allen J. Saville, Inc.

ENGINEERING AND CONSTRUCTION

Electric Building

RICHMOND, VIRGINIA

WILEY & WILSON

Consulting Engineers

STEAM AND ELECTRIC POWER PLANTS

CENTRAL PLANT HEATING SYSTEMS

Heating and Ventilating Equipments for Public and Private Buildings

WATER SUPPLY, SEWERAGE AND SEWAGE DISPOSAL

MAIN OFFICE: LYNCHBURG, VA.

BRANCH OFFICE: RICHMOND, VA.

Hardaway Contracting Company

Engineers Contractors

Water Power Developments, Bridges

COLUMBUS, GEORGIA

Cornell-Young Company

INCORPORATED

General Contractors

Railroads and Highways, Reinforced Concrete and Steam Shovel Work.

704 Georgia Casualty Bldg.

MACON, GEORGIA

Kennedy-Riegger Drilling Co., Inc.

Engineers & Contractors

Diamond Drill & Wash Borings

30 Church Street

NEW YORK CITY

Sprague & Henwood, Inc.

Diamond Core Drilling and Wash Borings.

For Buildings, Bridges, Dams and all kinds of Minerals

"ANYWHERE"

Main Office

SCRANTON, PA.

Tilghman Moyer Company

Bank Architects and Builders

ALLENTOWN

PENNSYLVANIA

The J. B. McCrary Company

Engineers

ATLANTA

GEORGIA

MUNICIPAL IMPROVEMENTS

We design and construct Water-Works, Electric-Light and Sewer Systems—Paving and Road Work.

Wiedeman and Singleton, Inc.

(Successors to Paul H. Norcross)

Consulting Engineers

WATER WORKS, SEWERS, SEWAGE DISPOSAL
 APPRAISALS, VALUATIONS, REPORTS

Candler Building

ATLANTA, GA.

Bylesby Engineering & Management Corporation

*Wholly-owned Subsidiary of
 Standard Gas and Electric Company*

231 South LaSalle Street, Chicago

NEW YORK

PITTSBURGH

SAN FRANCISCO

JOSEPH GODER

Consulting Engineer

INCINERATORS

612 N. Michigan Ave.

CHICAGO, ILLINOIS

Lockwood Greene Engineers, Inc.

Plans—Specifications—Reports—

Appraisals—for Industrial Plants

NEW YORK

BOSTON

CHICAGO

CLEVELAND

SPARTANBURG

Frederick Snare Corporation

Contracting Engineers

Difficult Foundations and Engineering Problems a Specialty

114 Liberty Street

New York

PHILADELPHIA

HAVANA

Tucker & Laxton

Contracting Engineers

Filters, Concrete Work, Hydro-Electric and Steam Electric Construction

CHARLOTTE, NORTH CAROLINA

DIRECTORY

ARCHITECTS

ENGINEERS

CHEMISTS

GEOLOGISTS

CHEMICAL ENGINEERS

ACCOUNTANTS

CONTRACTORS

Detailed classification of specialized work undertaken by those having cards in this Directory will be found in Classified Index.

Courtenay De Kalb

Mining Engineer and Economic Geologist

Reports on Mineral Products

Design and Advice on Treatment Plants for Ores and Non-Metallic Products
15 Gramercy Park NEW YORK, N. Y.

Mott Core Drilling Company

Diamond Core Drill Contractors

We Test Coal, Clays and Mineral Properties, Foundation Testing, Dams,
Bridges, Buildings, Wash Borings, Dry Samples.

MAIN OFFICE

HUNTINGTON, W. VA.

Robert W. Hunt Company

ENGINEERS

Inspection—Tests—Consultation

22nd FOUR INSURANCE EXCHANGE, CHICAGO,
Laboratories and Offices in all Large Cities

Pittsburgh Testing Laboratory

ANALYSIS INSPECTION TESTING RESEARCH

PITTSBURGH, PA.

Branch Offices in the Principal Cities

Southwestern Laboratories

Chemical and Testing Engineers

Inspection Steel and Cement for Bridges and Buildings, Creosoted Timber,
Asphalt, Brick, Cast Iron Pipe, Railroad Equipment, Bituminous Pavement
at Plant, Chemical Analysis, Etc. Representation at usual points of origin.
FORT WORTH DALLAS HOUSTON AMARILLO SAN ANTONIO

Established 1881

Froehling and Robertson, Inc.

Inspection Engineers and Chemists

Inspection of Cement, Steel, Pipe, Timber, Brick, Tile
Design and Control of Asphalt and Concrete Mixture
Water Analysis a Specialty.

RICHMOND

NEW YORK CITY



WE LOOK INTO THE EARTH By use of Diamond Core Drills

We test foundations for buildings, bridges and
dams. We prospect coal and mineral lands in any
part of North and South America.

PENNSYLVANIA DRILLING CO.

1201-1215 Chartiers Avenue
Pittsburgh (Elliott), Pa.

DRILLING CONTRACTORS

SEAWALLS WEBER SYSTEM

MANY DIFFERENT TYPES TO MEET EVERY CONDITION
SAFETY AND MOST PERMANENT CONSTRUCTION

ENORMOUS SAVING OF COST

FOR COMPLETE INFORMATION WRITE TO—
SHORE-LINE BUILDERS, INC.
JACKSONVILLE, FLORIDA.

WEBER SYSTEM **BULKHEADS**



DO YOUR Paper Boxes Bespeak of Quality?

The attractiveness of the box in which your product is packed oftentimes influences a sale.

The very appearance of Old Dominion boxes bespeaks of quality, for these are "individualized" boxes, made especially for your requirements, and with your own design on them you have a quality box that commands and gets attention. Our five centrally located plants can give you prompt service on your box requirements—any type or size. Samples and quotations given without obligation.

OLD DOMINION BOX COMPANY, INC.
Lynchburg, Va.

Winston-Salem, N. C. Burlington, N. C. Ashboro, N. C. Charlotte, N. C.

quality **OLD DOMINION
Paper Boxes**

Architects!

Contractors!

Manufacturers!

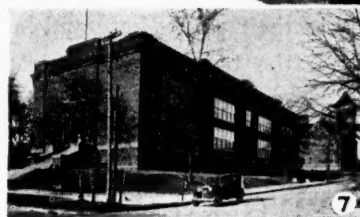
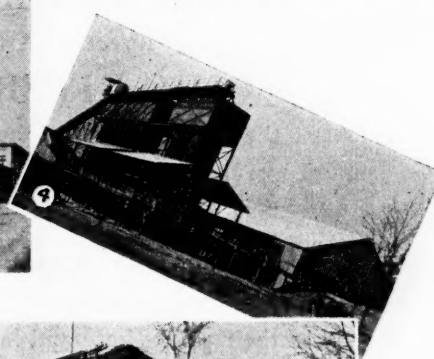
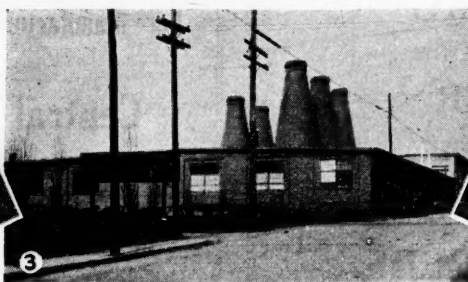
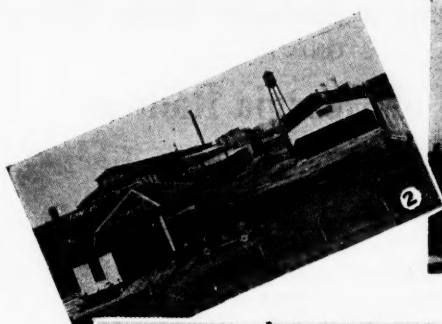
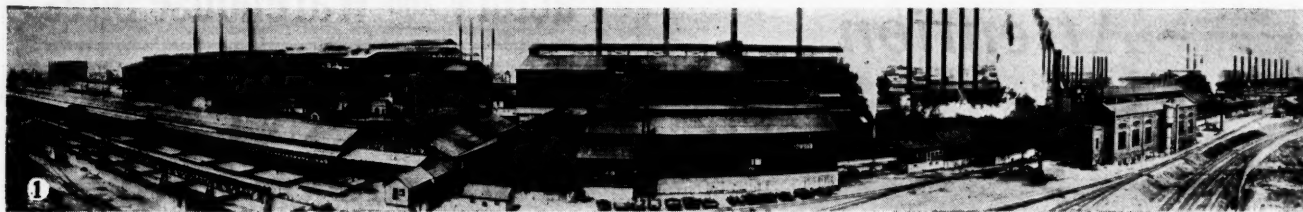
Engineers!

Builders!

PRESENT day competition is too keen to ignore advance news of developments in your field. The value of this news depends entirely upon receiving it quickly. The DAILY CONSTRUCTION BULLETIN has proven its worth by satisfactorily filling this requirement for its many Southern subscribers. Real opportunities for an increase in the volume of your business are offered in each issue of the

Daily Construction Bulletin

INDUSTRIAL GAS



Natural GAS in Industry

Natural gas is adapted for use in every phase of industrial activity.

In the last 10 years, consumption of natural gas in this country has increased more than 130 per cent. While domestic consumption has grown, the much larger increase has occurred in industrial uses.

All kinds of industrial plants . . . from making steel to dry-cleaning clothes . . . find that "if it can be done with heat, it can be done better with natural gas!"

Natural gas is efficient, economical, easily regulated, saves labor, frequently improves the quality of the manufactured product, and reduces production losses in manufacture.

Photographs show industrial plants using natural gas. 1. Tennessee Coal, Iron & R. R. Company, Ensley, Ala., 2. Imperial Cotton Oil Company, Macon, Miss., 3. Carling Tile Works, Macon, Ga., 4. Cheney Lime Works, Landmark, Ala., 5. Newnan Steam Laundry, Newnan, Ga., 6. Totem Dry Cleaners, Atlanta, Ga., 7. Newnan High School, Newnan, Ga.



Complete information on the use of natural gas in your plant will be furnished, without obligation. Write to

SOUTHERN NATURAL GAS CORPORATION

WATTS BUILDING
BIRMINGHAM, ALA.



Attention Manufacturers!

PARKERSBURG

is located directly on the

OHIO RIVER

the great inland waterway
serving the richest sec-
tions of this country.

MANUFACTURERS

are invited to establish
their plants here and have
the benefit of this trans-
portation for bulk freight.

Board of Commerce
PARKERSBURG, WEST VIRGINIA

Florida

Leads the Union in the produc-
tion of citrus fruits and winter
vegetables.

Cattle raising and dairying are
also fast becoming leading indus-
tries of the state.

Soil—climate and ample rainfall
are the main contributing fac-
tors.

*You should investigate these
and other opportunities that
the state has to offer.*

For information and literature—write

Model Land Company
Flagler System

St. Augustine — Florida

*The late Henry M. Flagler and his organizations have served
Florida since 1886*

Factory and Warehouse Sites

AT

ATLANTA

For Sale or Lease

For Manufacturing or Warehouse Purposes Only
ON

Central of Georgia Railway

Extending from East Point to Inman, Georgia

| | |
|-------------------|--------------------|
| Atlanta Rates | Regular Switching |
| Good Labor Supply | Service |
| Electric Power | Street Car Service |
| Water Supply | Suburban Trains |
| Electric Lights | Paved Roads |
| | Sewerage |

Write for Copy of

*"The Natural Advantages of the Atlanta
Industrial District"*

R. R. OTIS, Agent

Arcade Building

ATLANTA - GEORGIA

In



St. Louis

Hotel Mayfair....

8th and St. Charles

In the center of theatre and shopping districts. Floor
lamps, fans, circulating ice water in every room. The
quiet, refined atmosphere of an exclusive club—an
hotel of distinction. Dining room. Coffee shop.
Garage service.

400 ROOMS — \$3⁰⁰ to \$6⁰⁰
BATHS

Hotel Lennox....

9th and Washington

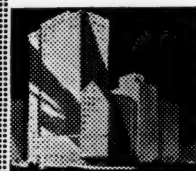
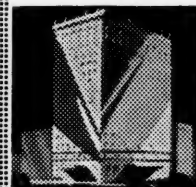
St. Louis' newest and smartest hotel opened Sep-
tember 3rd. In the heart of business district. Dining
room. Coffee shop. Garage service.

400 Rooms with tub
bath and shower — \$3⁰⁰ to \$6⁰⁰

Hotel Kings-Way...

West Pine at Kingshighway

Opposite beautiful Forest Park. Near bus, street
car and motor highways. 20 minutes from downtown.
Club breakfasts, table d'hôte dinners. Rooms for
two from \$4. Special rates for permanent guests.



Heiss Hotel System KMOX

The "POTATO SPECIAL"

In the Field Monday—
On the Market Wednesday

FAST DEPENDABLE SCHEDULES DURING 1931 SHIPPING SEASON

| | No. 99 (Caravan) | Potato Special | No. 85 (Nomad) |
|--------------------------------|---------------------|-------------------|-------------------|
| Lv. Norfolk, Va. | 11:00 AM Mon. | 7:00 PM Mon. | 11:30 PM Mon. |
| Lv. Petersburg, Va. | 2:30 PM Mon. | 7:00 PM Mon. | 1:00 AM Tues. |
| Ar. Roanoke, Va. | 12:15 AM Tues. | | 12:30 PM Tues. |
| Lv. Roanoke, Va. | 1:45 AM Tues. | | 2:30 PM Tues. |
| Ar. Portsmouth, Ohio | 8:55 PM Tues. | 10:00 PM Tues. | 11:30 AM Wed. |
| Lv. Portsmouth, Ohio | 11:30 PM Tues. | 11:30 PM Tues. | 1:30 PM Wed. |
| Ar. Columbus, Ohio (ET) | 7:00 AM Wed. | 7:00 AM Wed. | 8:30 PM Wed. |
| Ar. Cincinnati, Ohio (ET) | 7:00 AM Wed. | 7:00 AM Wed. | 8:00 PM Wed. |
| Lv. Columbus, Ohio PRR (ET) | 11:00 AM Wed. | 11:00 AM Wed. | 1:00 AM Thurs. |
| Ar. Chicago, Ill. PRR (CT) | 2:45 AM Thurs. | 2:45 AM Thurs. | 9:00 PM Thurs. |
| Lv. Cincinnati, Ohio PRR (ET) | 1:30 PM Wed. | 1:30 PM Wed. | 12:05 AM Thurs. |
| Ar. Chicago, Ill. PRR (CT) | 2:00 AM Thurs. | 2:00 AM Thurs. | 9:00 PM Thurs. |
| Lv. Cincinnati, Ohio B/4 (ET) | 11:00 AM Wed. | 11:00 AM Wed. | 1:01 AM Thurs. |
| Ar. Chicago, Ill. B/4 (CT) | 2:30 AM Thurs. | 2:30 AM Thurs. | 8:00 PM Thurs. |
| Lv. Columbus, Ohio PRR (ET) | 12:30 PM Wed. | 12:30 PM Wed. | 11:45 PM Wed. |
| Ar. Toledo, Ohio PRR (ET) | 8:30 PM Wed. | 8:30 PM Wed. | 8:30 AM Thurs. |
| Ar. Detroit, Mich. PRR (ET) | 11:30 PM Wed. | 11:30 PM Wed. | 9:00 PM Thurs. |
| Lv. Cincinnati, Ohio B/4 (ET) | 1:35 PM Wed. | 1:35 PM Wed. | 10:45 PM Wed. |
| Ar. Toledo, Ohio B/4 (ET) | 8:30 PM Wed. | 8:30 PM Wed. | 1:00 PM Thurs. |
| Ar. Detroit, Mich. MC (ET) | 4:00 AM Thurs. | 4:00 AM Thurs. | 4:00 AM Fri. |
| Lv. Columbus, Ohio NYC (ET) | 8:40 AM Wed. | 8:40 AM Wed. | 11:00 PM Wed. |
| Ar. Toledo, Ohio NYC (ET) | 3:10 PM Wed. | 3:10 PM Wed. | 7:00 AM Thurs. |
| Ar. Detroit, Mich. MC (ET) | 4:00 AM Thurs. | 4:00 AM Thurs. | 5:30 PM Thurs. |
| Lv. Cincinnati, Ohio PRR (ET) | 1:15 PM Wed. | 1:15 PM Wed. | 1:15 PM Thurs. |
| Ar. Springfield, Ohio PRR (ET) | 4:45 PM Wed. | 4:45 PM Wed. | 4:45 PM Thurs. |
| Ar. Detroit, Mich. DT&I (ET) | 11:45 PM Wed. | 11:45 PM Wed. | 11:45 PM Thurs. |
| Lv. Columbus, Ohio C&O (ET) | 3:15 PM Wed. | 3:15 PM Wed. | 3:15 AM Thurs. |
| Ar. Toledo, Ohio C&O (ET) | 8:00 PM Wed. | 8:00 PM Wed. | 11:00 AM Thurs. |
| Ar. Detroit, Mich. PM (ET) | 2:00 AM Thurs. | 2:00 AM Thurs. | 2:00 AM Fri. |

THE Norfolk and Western Railway—during the potato shipping season of 1931—again offers fast, dependable service from the potato growing districts of the Norfolk Southern Railroad, the Atlantic Coast Line Railroad, the Seaboard Air Line Railway and the Norfolk Section of Virginia to the large consuming centers of the Mid-West.

"The Potato Special"—operated during the shipping season only, from Norfolk and Petersburg, characterizes distinctive standards of fast transportation service and makes good connections with other lines at Cincinnati and Columbus. Direct interchange is made at Norfolk and at Petersburg—the 1931 schedules being the quickest and most dependable available.

This service provides, from both Norfolk and Petersburg, second morning deliveries at Cincinnati and Columbus; and third morning deliveries at Chicago, Detroit, Toledo and points similarly located.

For information regarding rates, routes and service, please communicate with your nearest representative of the Norfolk and Western Freight Traffic Department

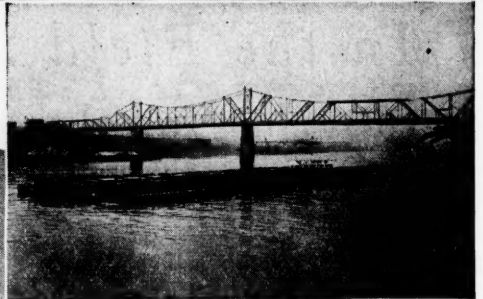
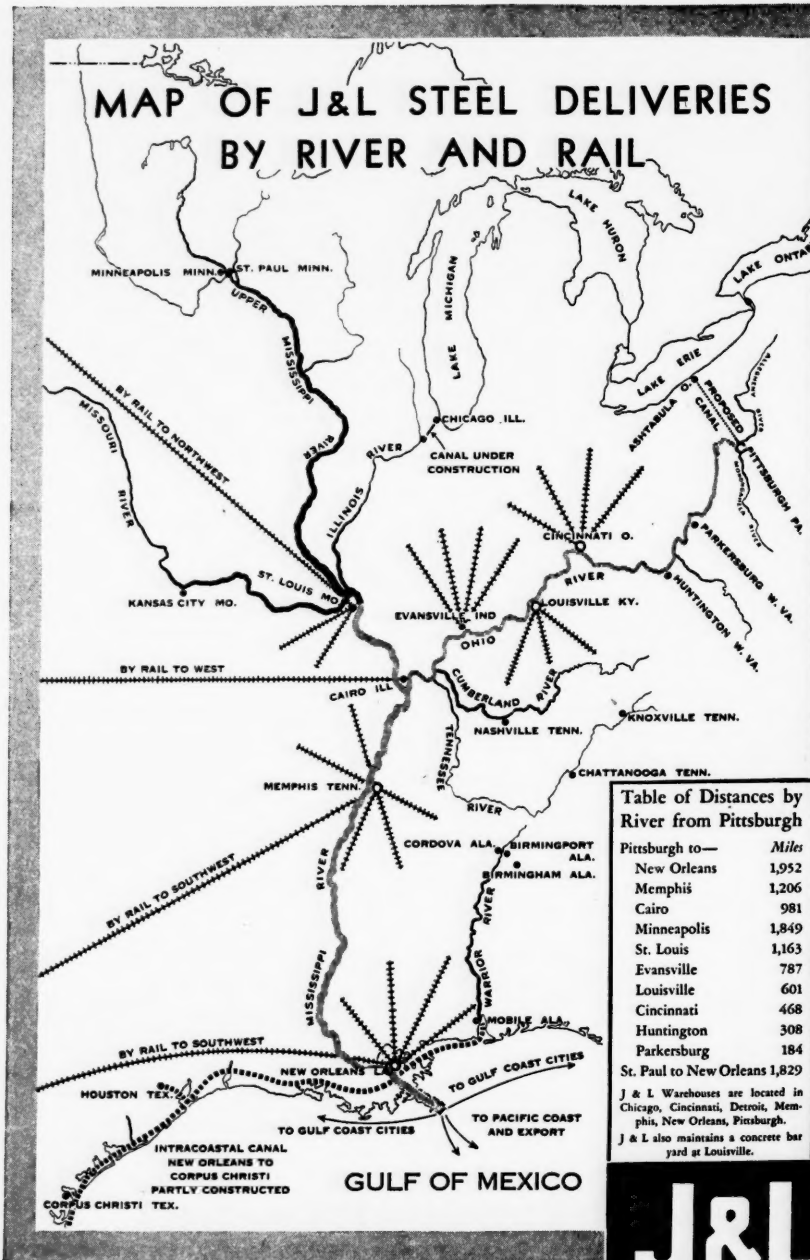


NORFOLK AND WESTERN RAILWAY

ROANOKE • VIRGINIA

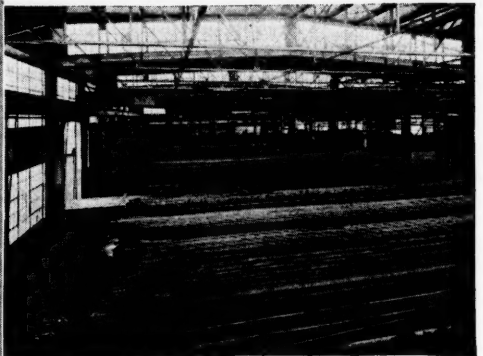
Constantly

THE SCOPE

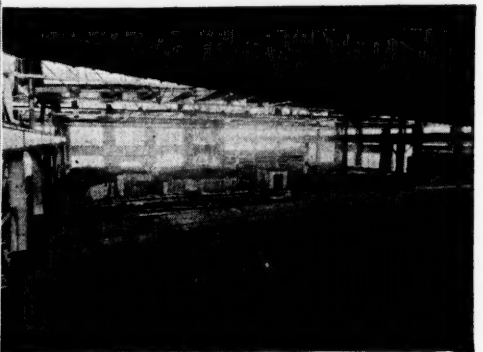


THE CENTURY TOW—One-hundredth shipment of J & L steel products, as it left the J & L Works, Allequippa, Pa., April 16, 1930, for Memphis and New Orleans, with stops scheduled at principal cities on the Ohio and Mississippi Rivers.

NOW—



Structural shapes bay, J & L New Orleans Warehouse

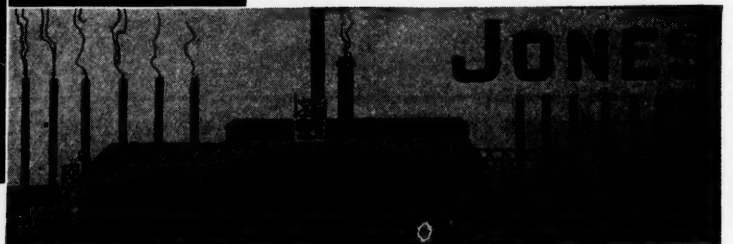


Stock of steel plates in J & L New Orleans Warehouse

J&L STEEL



View of fabricating shop, which is a part of the J & L Warehouse at New Orleans.





The acquisition of the Lukens Steel Company warehouse and fabricating shop at New Orleans gives the Jones and Laughlin Steel Corporation greatly augmented facilities for customer service. New Orleans will be served locally; customers in the south and southwest, on the Pacific Coast, and in foreign countries will be served by rail, water and water-rail transport. The purchase of the Lukens plant is a logical step forward in the development of the J & L system of river and river-rail distribution of manufactured steel products to cities along the Ohio and Mississippi Rivers and to inland points in the South, Southwest and West. The service that this New Orleans warehouse will render to its territory will be the same type which has proved so helpful and satisfactory to the steel buyers served by J & L Warehouses at Pittsburgh, Detroit, Cincinnati, Chicago and Memphis.

The New Orleans warehouse consists of four bays for steel stocks and, in addition, a fabricating shop, and a two-story brick office building. It is situated on 17 acres fronting on the turning basin of the Industrial Canal. All equipment is modern and complete. The plant will be utilized for warehousing merchant bars, structural shapes, plates, concrete bars, cold finished steel, special shapes, junior beams, wire, nails and other J & L products.

Served directly by river from Pittsburgh, this new base at the mouth of the Mississippi River substantially expands the scope of J & L Service, bringing to yet another territory the many advantages that J & L Warehouse service invariably gives.

J & L STEEL PRODUCTS

{Open Hearth and Bessemer Steel}

| HOT ROLLED PRODUCTS | | | | | |
|--|----------|-------------------------------|-----------------|----------------|-------|
| Billets | Blooms | Slabs | Sheet Bars | Skelp | Bands |
| Flats | Hexagons | Rounds | Squares | | |
| Angles | Beams | Channels | Tees | Zees | |
| Agricultural Shapes | | | | | |
| Light Weight Stair Stringer Channels | | | | | |
| Plates for Bridges, Tanks, Boilers, Cars and Ships | | | | | |
| RAILROAD SPIKES | | | TIE PLATES | | |
| Light Rails and Accessories | | | | | |
| BARS FOR CONCRETE REINFORCEMENT | | | | | |
| (Straight, Bent and Fabricated) | | | | | |
| FORGING STEEL | | | | | |
| JALCASE STEEL | | | | | |
| Hot Rolled | | | Cold Finished | | |
| COLD FINISHED STEEL | | | | | |
| Rounds | Squares | Hexagons | Flats | Special Shapes | |
| Free Cutting Screw Stock | | | | | |
| Shafting | | | | | |
| (Turned and Ground, Turned and Polished, Cold Drawn) | | | | | |
| Pump and Piston Rods | | | | | |
| JUNIOR BEAMS | | | | | |
| STEEL PILING | | | | | |
| FABRICATED STRUCTURAL WORK | | | | | |
| Columns | Girders | Trusses | Plate Work | Tanks | |
| Steel Barges Mill and Factory Buildings | | | | | |
| TUBULAR PRODUCTS | | | | | |
| Standard Pipe | | | Line Pipe | | |
| Casing, Tubing, Drive and Rotary Drill Pipe | | | | | |
| in Lapwelded and Seamless | | | | | |
| WIRE PRODUCTS | | | | | |
| Wire Rods | | | | | |
| Bright, Annealed and Galvanized Wire | | | | | |
| Spring Wire | | Barbed Wire | | Woven Fencing | |
| Bright, Coated and Galvanized Nails | | | | | |
| Fence Staples | | | Netting Staples | | |
| TIN MILL PRODUCTS | | | | | |
| Coke Tin Plate | | Black Sheets (Tin Mill Sizes) | | | |
| COKE BY-PRODUCTS | | | | | |

J & LAUGHLIN STEEL CORPORATION

AMERICAN IRON AND STEEL WORKS

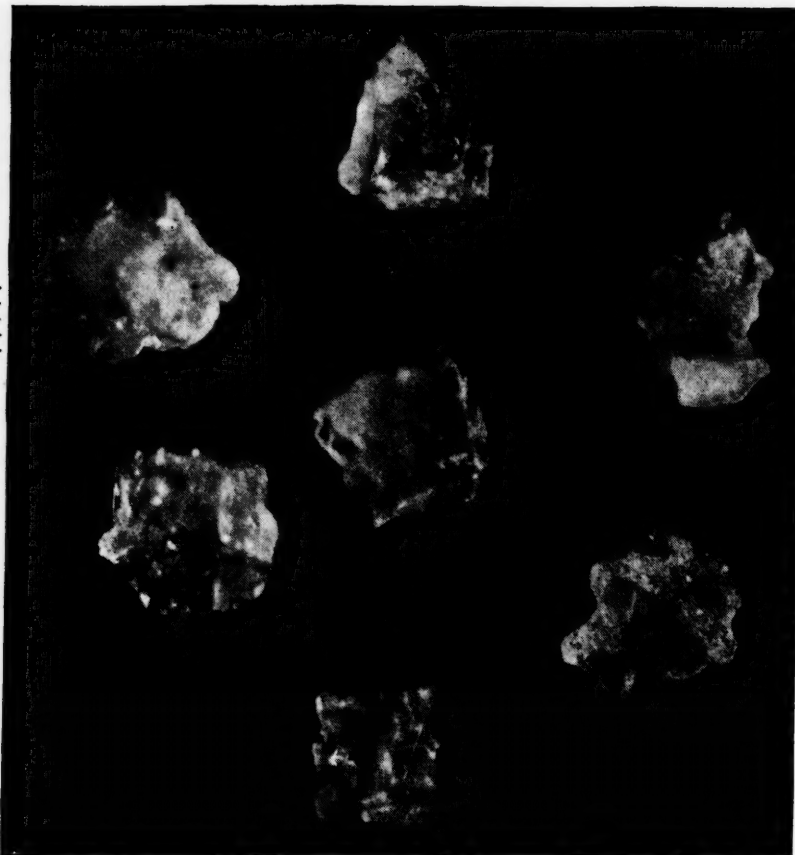
JONES & LAUGHLIN BUILDING, PITTSBURGH, PENNSYLVANIA

Sales Offices: Atlanta Boston Buffalo Chicago Cincinnati Cleveland Dallas Denver Detroit Erie Los Angeles Memphis

Milwaukee Minneapolis New York Philadelphia Pittsburgh St. Louis San Francisco Washington

Warehouses: CHICAGO CINCINNATI DETROIT MEMPHIS NEW ORLEANS PITTSBURGH

Canadian Representatives: JONES & LAUGHLIN STEEL PRODUCTS COMPANY, Pittsburgh, Pa., U. S. A., and Toronto, Ont., Canada



ALOXITE BRAND "TP"

REG. U.S. PAT. OFF.

STILL SUPERIOR...

"TP" was the first—the original "Surface Tenacity" polishing grain.

- The first grain to have the quality of greater holding power.
- It doesn't pull out of its glue setting—it wears out doing its full duty of polishing—"Surface Tenacity" is the answer.
- And it's free and clean of flats and splinters—accurate in its grading—hard, sharp, tough, angular grains, that stand up to the job, increasing the production of better finishes.

[[Glad to arrange for Trial Tests in your Polishing Room]]

THE CARBORUNDUM COMPANY • NIAGARA FALLS, N. Y.

REG. U.S. PAT. OFF.

CANADIAN CARBORUNDUM CO., LTD., NIAGARA FALLS, ONT.

Sales Offices and Warehouses in New York • Chicago • Boston • Philadelphia • Cleveland • Detroit • Cincinnati • Pittsburgh • Milwaukee • Grand Rapids • Toronto, Ont.

The Carborundum Co., Manchester, England

Deutsche Carborundum Werke, Reisholz bei Dusseldorf, Germany

(CARBORUNDUM AND ALOXITE ARE REGISTERED TRADE MARKS OF THE CARBORUNDUM COMPANY)

TABLE OF CONTENTS

Baltimore, Md., June 18, 1931

EDITORIALS

| | |
|--------------------------------|------------|
| Injurious Price Cutting..... | Cover Page |
| Another "Octopus" Bugaboo..... | 19 |
| An Echo of Cotton Week..... | 20 |
| The Soviet Menace..... | 20 |
| Constructive Competition | 21 |
| Capital Seeks Employment..... | 21 |

NEWS and FEATURE ARTICLES

| | |
|--|--------------------|
| Fort Worth Water Supply and Protection Against Floods..... | 22 |
| Seaboard Expending \$3,500,000 for Improvements..... | 24 |
| \$3,000,000 Construction Activities for Longview, Texas..... | 24 |
| Expanding Container Car Service for Pennsylvania Railroad..... | 25 |
| Waterways Experiment Station at Vicksburg, Miss..... | 26 |
| Lexington, Ky., Construction Activity..... | 27 |
| Natural Gas Industry Growth Spectacular..... | 27 |
| Electricity on the Farm..... | By R. L. Holman 28 |
| Tulsa Completes New Union Station..... | 31 |
| Chemistry and the South Discussed..... | 32 |
| \$2,490,000 of Houston Bonds Offered..... | 32 |
| Drainage Census Figures..... | 33 |
| Electrical Engineers to Meet in Asheville..... | 33 |
| Electric Output for Four-Week Period..... | 33 |

SPECIAL DEPARTMENTS

Construction, New Industries and Contracts, 18 Pages, Beginning on Page 39

| | | | |
|--|----|------------------------|----|
| Iron, Steel and Metal Market..... | 34 | Financial News | 58 |
| New and Improved Equipment..... | 36 | Trade Literature | 60 |
| Highways and Motor Transport..... | 38 | Industrial News | 60 |
| Classified Reference for Buyers..... | | 72 | |
| Alphabetical Index to Advertisers..... | | 89 | |

MANUFACTURERS RECORD

MAIN OFFICE
Manufacturers Record Building,
Commerce and Water Streets,
Baltimore, Md.

Published Every Thursday
by the
**MANUFACTURERS RECORD
PUBLISHING CO.**
FRANK GOULD, President

BRANCH OFFICES
Chicago—11 S. LaSalle St.
New York—901 Singer Bldg.

Subscription Rates: \$6.50 a year (in advance); six months, \$3.50; three months, \$2.00 to United States, Mexico, Cuba, Porto Rico, Hawaii and the Philippines. For Canada add postage \$1.00 a year. For other foreign countries add postage \$3.50 a year. Single copies, 20c.; back numbers, one to six months, 50c. each; over six months, \$1.00.

PUBLISHERS DAILY CONSTRUCTION BULLETIN AND BLUE BOOK OF SOUTHERN PROGRESS
Member A.B.C.

LEADITE

Trade Mark Registered U.S. Pat. Office

**For Jointing Cast-Iron Water Mains
Saves at Least 75%**

*Leadite Tested and Used for Over 30 Years
Leadite Joints Improve with Age
The Leadite Co., Land Title Bldg., Philadelphia, Pa.*

"See our Full Page Ad in 2nd issue each month"

No Caulking




**Manufacturers of Rails, Frogs, Switches,
for Permanent and Portable Track. Complete line of Steel Posts for Fence and other purposes.**

Catalog will be sent on request

SWEET'S STEEL COMPANY
MANUFACTURERS
WILLIAMSPORT PENNA.

ATTRACTIVE—DURABLE—DISTINCTIVE



Ornamental Iron Work
used in store fronts,
balconies, stairs, rail-
ings, lamps and Newel
Posts create beauty
and art.

*We execute your designs
correctly.*

Specify Ornamental Iron.

A. W. HAAS PATTERN CO.
179½ Garnett St. S. W. Atlanta, Ga.

THE PHOENIX IRON CO.

MANUFACTURERS OF OPEN HEARTH
Structural Steel Shapes, Beams,
Channels, Angles, and Ship Shapes

Works: Phoenixville, Pa. Main Offices: Philadelphia, Pa.

OFFICES:

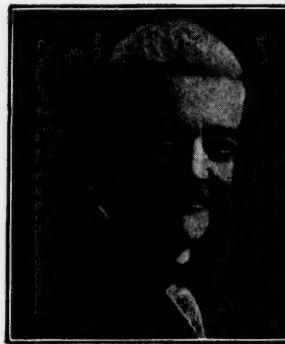
| | |
|---------------------------------------|-------------------------|
| 22 S. 15th St., Philadelphia | 30 Church St., New York |
| Munsey Building, Washington | 110 State St., Boston |
| City Savings Bk. Bldg., Albany, N. Y. | 26 Victoria St., London |

THE PHOENIX BRIDGE CO.

*Engineers, Fabricators, and Erectors
Bridges and Other Structures of Steel*

CAPACITY 60,000 TONS

Works and Engineering Office: Phoenixville, Pa.



John C. Campbell, Pres.

Are you AFRAID of Russia?

I am sorry to say that the much talked about Russian five-year plan is actually frightening many of my good American manufacturing friends.

When I ask them for "facts" on the five-year plan they one and all admit that they know practically nothing concerning it. But they are "scared" just the same.

After my more than fifty years of experience with all kinds of severe competition, trickery, price cutting, low competitive wages, and what not, perhaps you would like to know how the Newark Wire Cloth Co. did it and are still doing it.

We have always made the very highest quality wire cloth we could make, regardless of cost. We steadfastly refused to cheapen our products in order to compete on a price basis. Our policy "Quality first," has never varied. Ultimate cost is almost invariably more important than first cost.

What is the result? We have steadily grown bigger, and BIGGER, and B I G G E R. Newark Wire Cloth Co. products are known the world over as being QUALITY products. We actually receive orders from foreign countries in which the cost of labor is much cheaper than in this country, but their product doesn't come up to Newark in QUALITY. QUALITY is what counts.

Personally I am not much interested in whether or not the Russians are going to compete with us. We are going to continue to make QUALITY wire cloth—the best and finest in the world.

Fortunately for our customers we long ago arrived at the point where our huge output enables us to do very well even as regards price. We must necessarily charge a little more but you will find that Newark products are worth a LOT more.

Have you ever inspected Newark Wire Cloth under the microscope? Have you checked up on accuracy of spacing? Number of wires per inch? Wire Diameter? On quality of material used? If not, do so by all means. It will be an "eye opener."

JOHN C. CAMPBELL,
President



Newark Wire Cloth is made in all meshes, all weaves, all lengths, all widths, and of all malleable metals such as Monel metal, aluminum, brass, copper, bronze, phosphor bronze, nickel, steel, manganese steel, stainless steel, silver, gold, platinum, "Nichrome," tinned metals and special alloys.

Newark Wire Cloth Co.

360-374 Verona Ave., Newark, N. J.

Branch Office: 66 Hamilton St., Cambridge, Mass.

Manufacturers Record

Reg. U. S. Pat. Office

Devoted to the Upbuilding of the Nation Through the Development
of the South and Southwest as the Nation's Greatest Material Asset

Vol. XCIX No. 25 }
Weekly }

BALTIMORE, JUNE 18, 1931

{ Single Copies, 20 Cents.
{ \$6.50 a Year

Another "Octopus" Bugaboo

IT is peculiarly unfortunate that Governor Pinchot in his attack on electric public utilities, before the Governors' conference, confined his strictures to bare assertions and refrained from presenting any concrete corroboration he may possess. If the electric utilities are imposing unfairly on the people, the full details should be presented; without such proof, the public confidence in a vitally important industry should not be shaken by mere allegations.

Two charges are outstanding: First, that a utilities combine, in the nature of a power monopoly, is in process of organization; second, that the chief companies involved are already exacting extortionate rates. The political machinations and manipulations charged by Governor Pinchot are incidental in the two major points he raises. His objective is federal control of interstate electric current transmission, as exerted over the railroads in the transportation field.

Starting from nothing, two generations ago, as Governor Pinchot puts it, the electric light and power industry has developed to a \$12,000,000,000 investment enterprise, "largely through lack of proper regulation." Ninety-five per cent of the electric current output, he continues, is controlled by four major groups, with 2 per cent controlled by municipalities or other governmental agencies and 3 per cent represented by unidentified independents. This situation he attributes to the fact that "interstate commerce in electric current is outside either federal or state control."

Unhappily for those who desire to consider the subject clearly, Governor Pinchot does not point out the public injury which he intimates to exist in the creation of a \$12,000,000,000 enterprise. Other billion-dollar enterprises have developed within two generations; electric production is by no means the only such American industrial monument. Nor does he show how "proper regulation" would have repressed this industry's growth, or, above all, how such possible repression would have contributed to the public welfare.

Until Governor Pinchot may substantiate con-

cretely his bare assertion that the electric utilities are exacting "the most gigantic graft ever imposed or collected by any single business since the world began," it is not feasible fairly to balance any possible inequity with the public benefits provided by this power industry. He quotes an unidentified authority as estimating this "graft" at \$500,000,000. As this sum happens to be more than 60 per cent of the net operating income of these companies, Governor Pinchot's allegation loses weight through manifest improbability.

On the other hand, Federal Government figures show that electric current prices have progressively declined, in marked contrast with other commodity prices. While the cost for electricity has shrunk 18.5 per cent since 1913, the increase in prices for other necessities has ranged from 8 to 88 per cent, in the same time, says the Department of Labor. On the investment of \$12,000,000,000 as estimated by Governor Pinchot, the electric companies last year earned a net operating revenue around \$829,000,000, or 6.9 per cent. On a basis of \$650,000,000 paid in 1930 for domestic current, the average cost to the 20,000,000 private consumers was something over \$2.50 a month. Neither the net return on investment nor the rate to the domestic consumer savors of "gigantic graft."

The constructive value of the electric power industry to the country stands out very clearly. Industrial plants of wide variety have been made possible, in tremendous number. Production costs have been substantially reduced, with corresponding profit to the consumer. Employment has been provided for tens of thousands of men and women, directly and indirectly. The domestic electricity consumer's tax bill has been favorably affected by the tax payments of the power companies and the other industries which this power has helped to develop.

Under the head of public utility waterpower, the Geological Survey shows 13,108,000 horsepower for the United States, of which 4,122,000, or 31 per cent, is in the South. Approximately 70 per cent of all American homes now are wired. Electric current is

almost indispensable also to the farms of the country, and farm service was extended 18 per cent in 1930, the largest gain in this field for any single year. While the total consumption of electricity in 1930 was somewhat below that of 1929, the household consumption showed a gain of 14 per cent.

The South, as an outstanding source of electric current, will be inclined to study the power situation before endorsing Governor Pinchot's demand for Government control of interstate transmission. In the South Atlantic States alone is 19.6 per cent of the developed waterpower of the entire United States. It may be possible, first, that the electric utilities are open to closer supervision, and, second, that the powers of some state commissions are not adequate for this purpose. On the other hand, it is possible that both rates and earnings are fair to the consumer. The answer will not be found in unsupported allegations of "gigantic graft," in the face of cold facts.

A point in Governor Pinchot's statement which should not be overlooked is the fact that only 2 per cent of electric utility service is conducted by municipalities or other governmental agencies, and this in a day when government ownership or operation of various industries is frequently advocated. The people are not persuaded that "government in business" works to their financial profit or other advantage. In Cleveland, Ohio, for instance, where both a municipal electric plant and a private company have been in operation for 17 years, the private company has more than six times as many customers as the city enterprise. Also, while earning 8 per cent on its investment, the private company was recently commended by the Federal Trade Commission and has maintained "exceptionally good relations" with the Ohio Public Utilities Commission.

Operation of any business on a commercial basis is not a proper governmental function. Protection of the people against imposition is a governmental duty. Government "control" of private business, unfortunately, is so likely to go to unreasonable and uneconomic extremes that it is not to be advocated off-hand on unsupported statements.

An Echo of Cotton Week

E. L. TUTEN, vice-president of the Wyatt Lumber Company, Ltd., Ruston, La., writes:

"There are more cotton clothes being worn here this season, by both men and women, than ever before."

The use-more-cotton campaign is bringing encouraging results. Merchants from all over the country report increased sales of cotton goods and the South is beginning in earnest to insist that cotton be used in greater quantity in bagging for all purposes. Greater attention also is being directed toward developing new uses for cotton in the industrial and construction field.

The Soviet Menace

THE question of Russia as a disturbing factor in the economic equilibrium of the world is constantly before business men everywhere. We presented the view some months ago that Russia as now constituted is a menace to civilization. Nothing has arisen to cause us to change that opinion. On the contrary, every development indicates the extreme necessity of putting up barriers against Russia's trade until that country learns to handle its affairs sanely. The hectic performance which is going on over there at present makes it impossible for other countries, unless they agree in the matter, to carry out plans for the stoppage of over-production or to develop any orderly marketing procedure. As announced by the press, the plan of the Soviet is to increase constantly the Russian wheat acreage and cotton acreage and to produce every commodity with the deliberate intent—through its peculiar methods of not paying its labor—of underselling the products of every other nation.

The people of Russia—the great mass that knows nothing about Bolshevism or the wild dreams of the Soviet rulers—will some day awaken and put a stop to a course that is doomed to complete failure. But in the meantime, the sinister figure of Russia in world markets looms large. The extent of the disturbance created is perhaps not appreciated fully by the people of this country. It is one of the really great factors in the present world upset and is acting as a decided brake upon orderly progress.

A speech was made in New York the other day by Georges Theunis, head of the Bank of Belgium, and former Prime Minister of that country. Mr. Theunis is the retiring president of the International Chamber of Commerce and has been in the United States attending the meeting of that body. As a preliminary to the speech, he said that his official connection with the International Chamber had not made him feel free to be as outspoken in his attitude toward the Russian problem as he would have liked. "Now," he said, "I am at liberty to speak my mind. First, I wish to state that the Soviet government has secret agents and spies in this country in larger numbers than is generally believed. We were warned, for instance, at the congress of the International Chamber of Commerce in Washington that Soviet agents knew what was going on at the various meetings, even at those which were not official." He continued:

"You know, of course, the reasons why the Russian problem was not publicly discussed at the congress. A great majority of the delegates agreed to condemn the methods and policies of the Soviet, but other members were affiliated with interests financially concerned with the fate of the five-year plan. I feel, however, that it is dangerous to seek to hide the fact that the commercial policy of the Soviet is extremely dangerous to world economy and may become even more so."

Mr. Theunis estimated that only two per cent of the population were Communists. Russia has an estimated population of 140,000,000, so that less than 3,000,000 are running affairs. Further:

"This minority takes advantage of the inconceivable apathy of the people and of a strength based on the most abominable terror that the world has seen. Appeasing the despair of its

people by fallacious promises, the Soviet only profits by the misery it has created in order to spread propaganda among other peoples, among my people and among the people of the United States.

"And it is to such a government that the civilized nations not only give their support, but grant credits with terms that they sometimes refuse to old and faithful clients."

The New York Herald Tribune, in referring to the remarks of the former Belgian Prime Minister, quotes him as saying:

"The Soviet leaders pay no attention to the cost of their products or to any other element of normal trade, and address themselves to countries which are divided among themselves by political differences or to private interests concerned only with immediate advantages." Citing statistics indicating the tremendous growth of Russian exports over the pre-war period, he said that the economic program in Russia definitely threatened to bring Western civilization to earth and that a superficial acquaintance with the United States is sufficient to realize how far all social strata have benefited by improvements in living standards made possible by this civilization."

Evidence is available from many sources that the Soviet threat to disorganize world trade is real. The United States and other countries have felt the effect of Russia's low-priced wheat. Russian lumber is underselling American lumber and ruining the lumber producers of European nations. Russian cotton is offered at prices below cost of production, even when cotton is selling at seven to eight cents a pound in the United States. The Soviet is apparently selling its products abroad regardless of cost, a cost based on wage scales and living conditions which are not tolerated in this country.

One is not greatly surprised that Russia is able to export raw materials, and under its plan sell these materials below their cost of production in other countries, but doubtless it will come somewhat as a shock to learn that Russia is beginning to compete also with machinery manufacturers. Arthur Brisbane, in one of his daily articles, copyrighted by the King Features Syndicate, Inc., comments on the fact that Russia has a surprise for Henry Ford. Mr. Ford taught Russian engineers in his American plant, sent to Russia the necessary machinery for making automobiles and tractors, and sent engineers to show them how to build factories and use the machinery. In return, according to Mr. Brisbane, the Soviet now is selling Fordson tractors, made in Russia, at \$100 below the Ford price. If the United States is to maintain its standards of living, it cannot afford to arm with technical advice and equipment a nation that is bent on destroying the economic stability of the world.

Constructive Competition

IN an advertisement on another page in this issue, John C. Campbell, president of the Newark Wire Cloth Company, Newark, N. J., very well brings out the contrast between quality production and price-cutting as an inspiration for business.

The fact should be emphasized continually that

price-cutting is a measure that cannot achieve constructive results. Quality is an elementary factor in sound business conduct. Against quality, as Mr. Campbell says, price-cutting, trickery and other similar factors in the long run are of no avail. Ultimate cost is almost invariably more important than first cost. Goods sold on merit bring repeat orders.

Many months of unhappy experience may convince American industry that price-cutting and other expedients of a destructive nature depress business progressively to lower levels. Only constructive, positive steps can inspire business revival.

Capital Seeks Employment

OVER-SUBSCRIPTION by more than seven times of the recent Federal Government bond issue of \$800,000,000 is a timely reminder that capital is seeking employment equally with the labor branch in the National economic partnership of these two groups: "Useless one without the other" is an appropriate quotation.

Of this \$800,000,000 issue, \$589,000,000 was designed for the refunding of maturing obligations. Not only did this \$589,000,000 seek immediate reinvestment, even at a lower interest rate, (3 $\frac{1}{8}$ per cent), but also a scramble ensued for the new employment opportunity of \$211,000,000.

Employment for capital is a pressing problem. Much of the \$27,000,000,000 in the nation's savings deposits and other billions held by banks and building associations is seeking opportunity for constructive work.

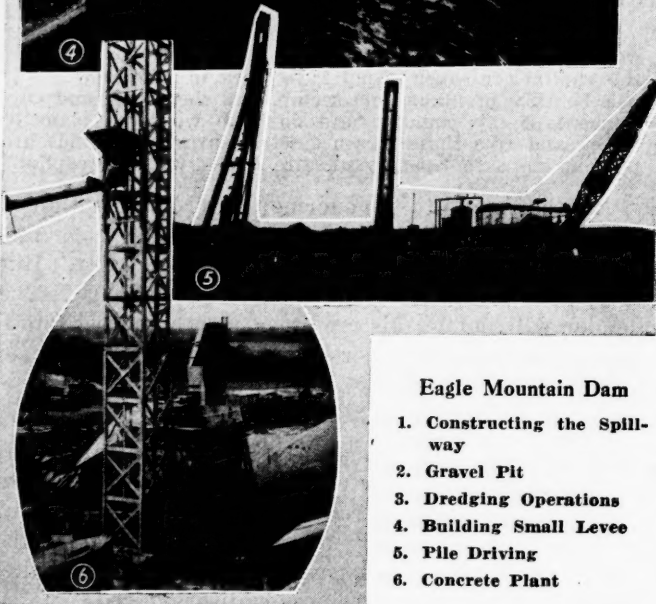
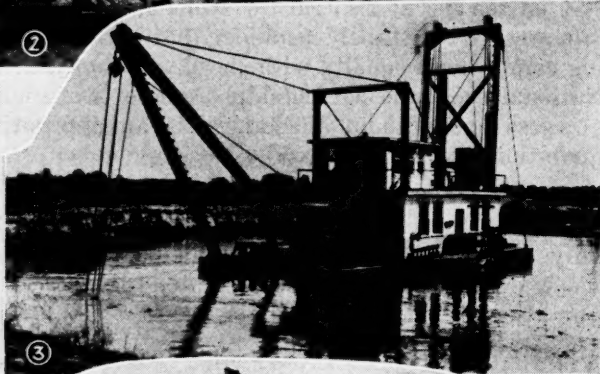
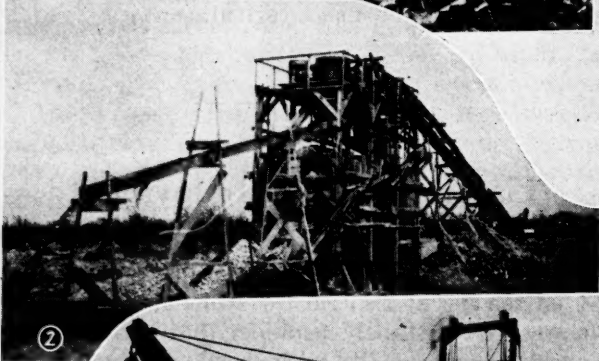
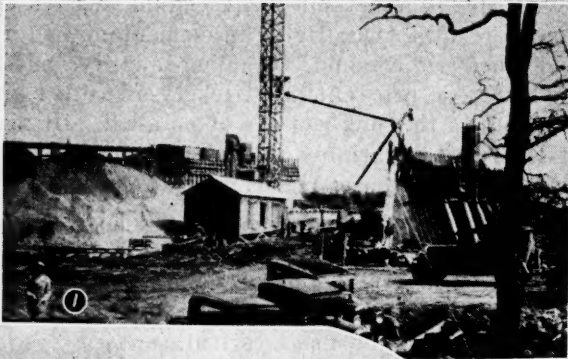
In referring to the fact that it is not at all unusual for government bond issues to be over-subscribed but that there is deeper significance in the excessive amount offered for the \$800,000,000 issue, the Augusta Chronicle states:

"There is encouragement in the incident. It shows that we have an abundance of capital, and that the owners of this capital are eager to put it to work in spheres where it will be alike profitable and secure. All the people and government of this country need do is to work out plans to loosen and free these frozen assets. Investment funds are piled up and safe deposit vaults are flooded with idle capital."

Another angle to the enormous over-subscription of the government loan is presented by the Iron Age, which says it is evidence that "credit is easy. But try to borrow for a long-time building mortgage! The lender will not let his credit go into high cost building. Nor will the person who does not have to borrow."

Credit is easy only when capital is offered safe security and when it may be assured of a fair profit commensurate with the risk involved. Therefore, government loans, even at reduced rates of interest, tempt capital from the safety of bank vaults, whereas the owners of capital are exceedingly timid about lending for private use when business is disorganized.

Fort Worth Water Supply



Eagle Mountain Dam

1. Constructing the Spillway
2. Gravel Pit
3. Dredging Operations
4. Building Small Levee
5. Pile Driving
6. Concrete Plant

TO augment the present water supply of the municipality of Fort Worth, Texas, and to provide retarding basins for flood waters of the Trinity River in the vicinity of Fort Worth, the Tarrant County Water Control and Improvement District Number One now has under construction two large dams, which ultimately are to impound 1,500,000 acre-feet of water. When the project is completed in 1932 approximately 5,000,000 cubic yards of earth and rock will have been moved and 50,000 cubic yards of concrete placed. Contracts totaling \$3,758,000 were awarded for the work involved in January, 1930, to the Trinityfarm Construction Co., Dallas, the McKenzie Construction Co., San Antonio, and to the Uvalde Construction Co., Dallas. Dirt work and clearing of timber is being done by the Trinityfarm organization, and steel sheet piling, concrete placement and rip-rap work by the McKenzie-Uvalde interests. Hawley and Freese, Fort Worth, are the engineers.

The Bridgeport dam, which is to be completed this year, is located on the West Fork of the Trinity River approximately 50 miles to the northwest of Fort Worth. At flood elevation this structure is to impound 870,000 acre feet. Since February, 1930 when work was started, there has been removed over 700,000 cubic yards or 45 per cent of the required earth and rock.

Excavation on the other dam, the Eagle Mountain project, was started at the same time and up to February, 1931, between 800,000 and 1,000,000 cubic yards of earth and rock, or 30 per cent of the total yardage involved on the project, had been moved. This dam is located ten miles from Fort Worth, also on the Trinity River and in the same general direction as the Bridgeport structure. Capacity of the reservoir to be created by the Eagle Mountain dam, scheduled for completion in 1932, is estimated at 630,000 acre feet.

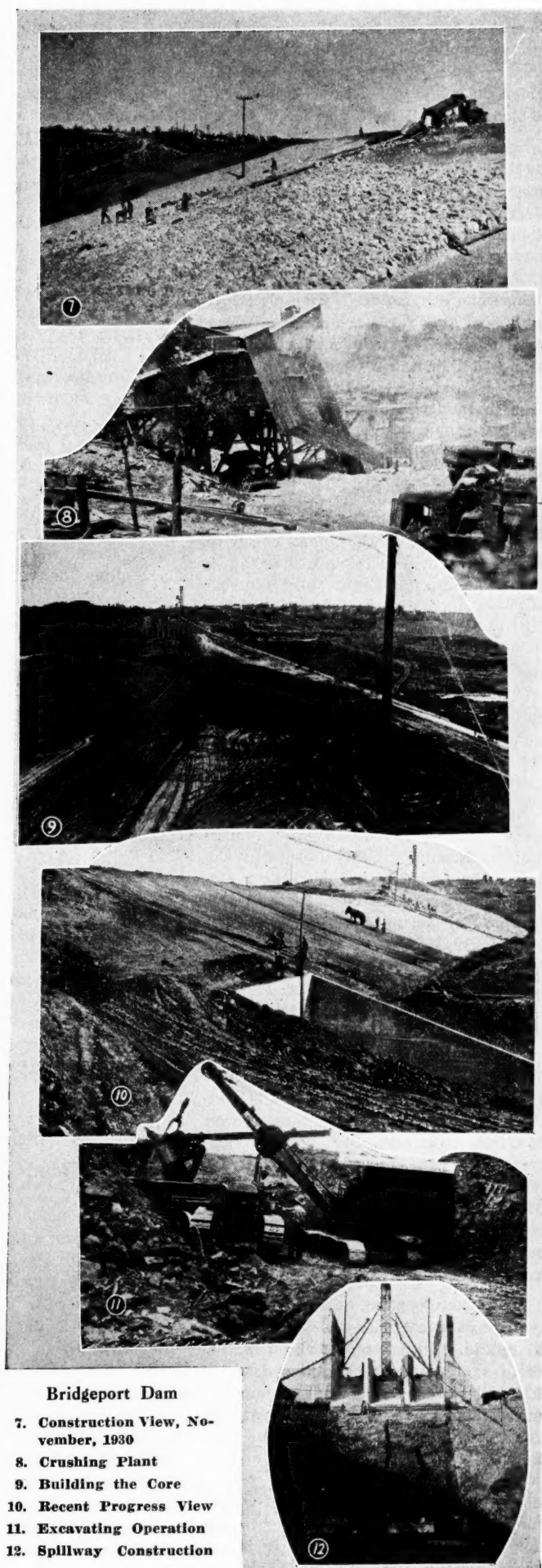
A formidable array of equipment is engaged on the various phases of the two impounding dams. In the gravel pit at Eagle Mountain, a Tel-smith Ajax washing screen, 32 inches by 12 feet, including a 4-foot scrubber section, is operated. A No. 6 sand hopper, a 16-inch belt conveyor and a 16-inch plate feeder, all of Tel-smith manufacture, and a 25-horsepower Waukesha gasoline

and Protection Against Floods

engine complete the handling equipment. Water for washing is supplied by a No. 4 Gould centrifugal pump driven by 20-horsepower Hercules motors. Gravel is loaded at the pit by a $\frac{1}{2}$ -yard Universal crawler tread gasoline shovel into $\frac{1}{2}$ -yard dump body trucks. The washed and screened gravel and sand is transported five miles in 3-yard Wichita trucks and dumped through a 30-foot high trestle into a storage pile at the concrete mixing plant at the spillway.

Beneath this storage pile is a 6-foot wide by 8-foot high tunnel containing a 16-inch wide Chain Belt conveyor, which feeds to a Chain Belt bucket elevator discharging into a Blaw-Knox steel bin. This bin is equipped with Blaw-Knox volume batchers and is placed over a Ransome 1-yard mixer. The mixer is driven by a 35-horsepower Waukesha gasoline engine; the tunnel conveyor and the elevator, by a 20-horsepower Hercules gasoline engine. Mixed concrete is discharged into a 36-foot Ransome hoist bucket operating by means of a Flory 7-inch by $8\frac{1}{2}$ -inch cylinder double drum steam hoist, in a 140-foot wooden hoist tower with Ransome chuting equipment. A cement house, 16 by 62 feet, with a capacity of 1200 barrels, serves the mixing plant, the cement being handled in this house by Mathews roller conveyors. Water for mixing the concrete is furnished by a 4 by 6-inch Fairbanks-Morse duplex piston power pump driven by an 8-horsepower Le Roy engine. The general equipment in action on the Eagle Mountain project includes a No. 104 (1-yard) Northwest gasoline crane used for excavating, rehandling material at the stock pile, forms, etc. An Ingersoll-Rand 220-cubic foot portable compressor and Jackhammers are used in drilling preparatory to blasting.

Pile driving at the Eagle Mountain core trench was sublet to Jacobson, Sweeney and Jacobson, Galveston. The steel sheet piling is first set by means of a creeper pile driver equipped with 50-foot leads, a Lambert 9 by 10-inch double drum, double cylinder steam hoist, and a 9-B-2 McKiernan-Terry steam hammer. After setting, the piles are driven to refusal by a McKiernan-Terry steam hammer swung from leads of a 12-ton Industrial Brownhoist crawler type gasoline engine, powered by



Bridgeport Dam

7. Construction View, November, 1930
8. Crushing Plant
9. Building the Core
10. Recent Progress View
11. Excavating Operation
12. Spillway Construction

means of a water jet. Water for this jet is supplied at a 150-pound nozzle pressure by a Gardner steam pump, for which the steam is generated in a special 66-horsepower oil field-type boiler.

For handling the dirt work a 12-inch suction dredge was built new on the project. The dredge is equipped with Morris machinery. The 14-inch suction 12-inch discharge pump is run by a 400-horsepower motor and the auxiliary pump priming and fire protection by a 30-horsepower motor. All electrical equipment was furnished by the Dallas office of the General Electric Co. The frame hull of the dredge, which is 28 by 65 by 5 feet, was built on the job from fir lumber brought from Portland, Ore. A 2300-volt submarine cable connects with the main power line. Another electrically operated 12-inch suction dredge also is used, the pump of this one being driven by a 275-horsepower motor at a speed of 720 r. p. m. All wire ropes were furnished by A. Leschen & Sons Rope Co., St. Louis, Mo.; pontoons and shore line by the Kane Boiler Works, Galveston, and the Wyatt Metal and Boiler Works, Dallas; 12-inch ball joints and spud points by the Mobile Pulley Works, Mobile, Ala.; 5-drum hoisting unit by J. S. Mundy Hoisting Engine Co., Newark, N. J. and reduction gears, 75-horsepower, by the Cleveland Worm & Gear Co., Cleveland, Ohio.

Among other pieces of equipment at work at Eagle Mountain are: A Monaghan dragline of the 2-W type, with 60-foot boom and 2½-yard bucket; a 1½-inch, 5-horsepower centrifugal water pump furnished by the Dallas office of Fairbanks, Morse & Co.; a 1¼-yard, 75-B Lorain shovel, from the Thew Shovel Co., Lorain, Ohio; a 1½-yard Lima 101 shovel, from the Ohio Power Shovel Co., Lima, Ohio; six 5-yard crawler dump wagons, made by the Western Wheeled Scraper Co., Aurora, Ill.; three 6-horsepower Best "60" Caterpillar tractors; three 75-horsepower Monarch tractors; six International trucks of 4-yard capacity; a well drilling outfit with a 5-horsepower Fairbanks-Morse gas engine; one 10-ton Austin road roller; one 12-foot Adams leaning road grader; one 8-foot Russell road grader, and a Schramm air compressor.

The concrete plant at the Bridgeport dam is identical with the one at Eagle Mountain, except for production of concrete aggregate. A quarry two and a half miles from the site of the dam produces the fine and coarse aggregate for concrete and the crushed stone for blanket rip rap. Drilling at this quarry, which has an average face of 18 feet, is done by an X-71 Ingersoll-Rand wagon-mounted air drill. A Jackhammer is used for the secondary drilling. Air is furnished by an Ingersoll-Rand Imperial,

Type 10 B, duplex compressor driven by a 50-horsepower Westinghouse motor. Rock for concrete aggregate is transported to the crusher and rip rap stone to a loading dock within the quarry by means of Kilifer 1¼-yard capacity pan carts manufactured by William A. Box Manufacturing Co., Denver, Col. After primary crushing in a No. 4 Williams hammer mill driven by a 100-horsepower Westinghouse motor, the stone is screened by a 16-foot by 48-inch Austin Western screen. Screenings are returned to a No. 1 Williams hammer mill for recrushing to produce fine aggregate. Three Champion suction fans driven by a 5-horsepower motor remove enough fines from this product to bring it within the specification allowance of not more than 6 per cent passing 100 mesh screen. The concrete aggregate is transported from the quarry to the site of the dam in 4-yard Mack trucks, which dump the rip rap directly onto a portable steel line chute placed on a slope of the dam. These chutes deliver the stone to points where it is hand-placed.

Equipment in use in excavation work on the Bridgeport dam includes: A Monaghan dragline of the 3-W type, with 80-foot boom and 3-yard bucket; a 1¼-yard 75-B Lorain shovel; ten 6-horsepower Best "60" Caterpillar tractors, purchased from R. B. George Co., Dallas; nine 8-yard crawler dump wagons, of the Davenport Locomotive Works, Davenport, Iowa; eight Indiana trucks of 2 and 3 yard capacity; one 5-horsepower, electrically operated 2-inch centrifugal water pump of Fairbanks-Morse manufacture; one electric welder, equipped with Buda gas engine, furnished by the General Electric Co.; a Sullivan air compressor equipped with Buda engine; two 10-ton Austin road rollers; an Adams leaning wheel road grader with a 12-foot blade, and two 2-ton Chevrolet trucks.

Jute Goods Distribution

Data collected by the Census of Distribution show that of total sales of \$22,175,000 by 20 manufacturing plants engaged primarily in making jute goods in 1929, 66.4 per cent, or \$14,729,000, was sold to manufacturers' own wholesale branches and to wholesale dealers. Separate figures for each of these two sales channels would disclose individual operations. Other sales were made to users, such as cotton ginners, upholsterers, farmers, nurseries and so on, amounting to 33.6 per cent, or \$7,446,000. Sales amounting to \$2,168,000 were made by five manufacturing plants through manufacturers' agents, brokers or commission houses.

Seaboard Expending \$3,500,000

Birmingham, Ala.—Completing a tour of the lines of the Seaboard Air Line Railway, L. R. Powell, Norfolk, Va., president and co-receiver, announces that the road will expend more than \$3,500,000 this year for the improvement of the property. A few months ago it placed an order with the Tennessee Coal, Iron & Railroad Company, Birmingham, for 5000 tons of steel rail and followed it a little later with another order for 4000 tons. It has now placed the third order with the local company for 3385 tons, delivery to be made immediately after the second order has been completed, which is now being rolled. The Seaboard is now awarding contracts for coal to be used during the next 12 months.

\$3,000,000 Construction Activities

Longview, Tex.—This city and vicinity have made rapid growth in construction activities since the first of January, with building permits in the city proper representing a cost of nearly \$1,000,000 and in the immediate vicinity, about \$2,000,000. Major enterprises include the East Texas Refinery to the east of the city, representing an investment of \$1,500,000; the Slack Petroleum Company's refinery under construction at Willow Springs, costing \$125,000; a booster station of the Humble company southeast of the city, costing \$250,000; oil field supply houses just outside of the city costing \$100,000, and other projects.

\$500,000 Tuskegee Buildings

Tuskegee Institute, Ala.—Contract to erect a new three-story, library building has been awarded by Tuskegee Normal and Industrial Institute to T. C. Windham & Son, Birmingham, and work has begun. The building will cost about \$200,000. Plans for a new \$300,000 science building are expected to be completed within a few weeks, construction to be handled by student labor. Taylor & Persley, Tuskegee Institute, are the school architects.

\$4,000,000 Postoffice Extension

Washington, D. C.—Graham, Anderson, Probst & White, Chicago, Ill., have been commissioned by the Treasury Department, Jas. A. Wetmore, Acting Supervising Architect, to prepare plans and specifications for extensions to and remodeling of the United States post office building here. The cost of the project will be about \$4,000,000.

Expanding Container Car Service

Service

Extension of container car service to provide faster movement of merchandise freight to all important points on the Pennsylvania Railroad was announced recently. Orders for more than \$1,500,000 worth of additional merchandise containers will be placed at once as part of the program for expansion of this service, according to the railroad. These orders call for 3250 containers to be built in the railroad's own shops at Enola, near Harrisburg, at Pitcairn in the Pittsburgh district and at the Altoona works.

In regular freight service small shipments not requiring an entire car are loaded at the shipping point for a number of different destinations. By eliminating the necessity for sorting these miscellaneous shipments at transfer points, use of containers will further speed the movement of freight between all principal points on the road.

At the present time the Pennsylvania has in service 1010 steel containers, each with a capacity of 10,000 pounds. Flat cars equipped for the purpose carry five such containers, with a possible capac-

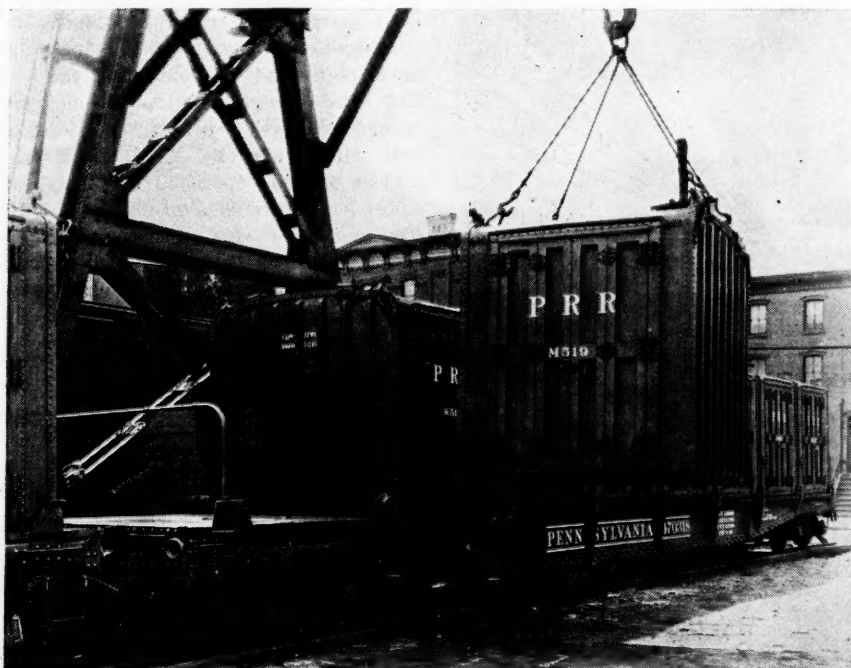
ity carload of 25 tons. The present service is operated between the New York metropolitan area and the principal points in the Pennsylvania Railroad's Eastern Region, as well as Pittsburgh,

Columbus, Cincinnati, Indianapolis and Chicago.

Distinct economies in operation as well as expedited service will result from the enlarged operation, M. W. Clement, vice-president in charge of operations, points out. The new service will make possible the consolidation of less than carload shipments at all central points for direct dispatch to Pennsylvania Railroad points. Five individual containers may be loaded at one point for as many as five different cities. These containers are transported on one flat car to a central point where each is transferred bodily to a car loaded with other containers for the same destination.



Type of Container for Small Shipments of Merchandise on the Pennsylvania



Method of Transferring Merchandise Containers From Motor Trucks to Railroad Flat Cars

Not only does this method facilitate the movement of miscellaneous freight over the railroad, Mr. Clement said, but the capacity load carried by a car of containers may total up to 50,000 pounds, compared with the present average box car load of 10,000 to 12,000 pounds; and with a minimum of handling, freight claims are practically eliminated.

The greater flexibility of the container not only enables the railroad to give expedited service to package freight in greater carloads, it is declared, but also offers the additional advantage that the containers can be trucked to and from the railroad freight station, practically bringing the freight car to the store door, thereby greatly reducing ultimate cost of the transportation to shipper and consumer.

Capt. L. L. Simpson, Constructing Quartermaster, Fort Bragg, N. C., has low bid from W. P. Rose & Co., Goldsboro, N. C., to erect a hospital and utilities building at Fort Bragg, for which \$475,000 was appropriated.

Waterways Experiment Station

at

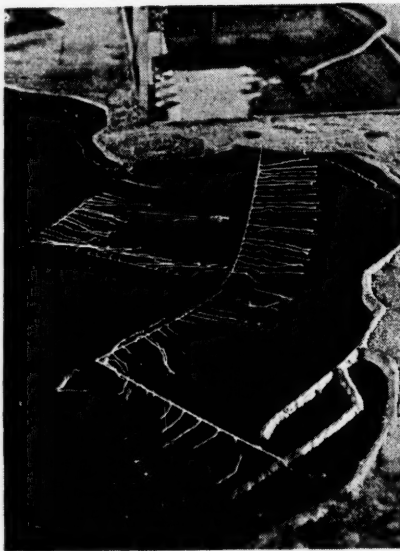
Vicksburg

WHEN particularly difficult problems in flood control present themselves, the Army Engineers now take these problems to the United States Waterways Experiment Station established not long ago at Vicksburg, Miss., where small indoor miniatures or large outdoor models are constructed and where the experimenters seek a solution. Among the problems considered are levee seepage, adaptability of various types of levees, effect of cutoffs, the limits of backwater and so on. Particularly interesting experiments under way are the studies of plans for raising Dam No. 37 on the Ohio River by ten feet, and studies of the Greenville bends of the Mississippi to determine whether the river will make a cut off at that point.

Every facility is provided at the station for efficient experimentation in hydraulics. Approximately 200 acre-feet of water is ready under normal conditions in the 40-acre lake formed by damming Durdon Creek, a small stream emptying into Hatcher Bayou, which in turn runs into the Mississippi River. A rectangular concrete box-culvert provides for emergency draining of the reservoir and for supplying large discharges of water



Main Laboratory Building Housing Experiment Hall, Carpenter Shop, Offices, Drafting Rooms and Other Facilities



Study of River Bends at Greenville, Miss.



View of Reservoir and Spillway

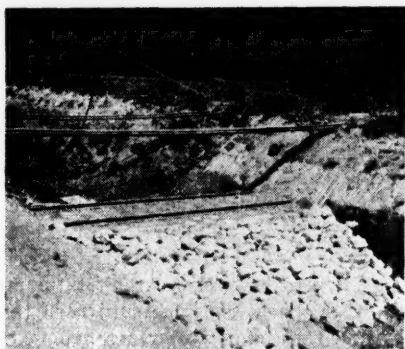
to the creek below the spillway, 120 feet wide, at the extreme east end of the dam. At a point 200 feet below the dam a seven-foot circular steel conduit leads to an underground concrete elbow-box and from there perpendicularly to the creek.

The main laboratory building is a brick structure, 52 by 209 feet, located one hundred feet from the toe of the dam. The central portion of the building houses the main experiment hall, 50 by 180 feet. A curtain wall shuts off the upper floor of the east wing; the lower floors are continuous. On the second floor above the pumps in the east wing is mounted a constant head reservoir with a capacity of 280 cubic feet and an overflow crest of 100 feet. Caretaker's quarters also are located here. The carpenter shop, instrument room, photographic darkroom, sediment laboratory, offices, library, computing and drafting rooms are in the west wing.

Three outlets for furnishing water to the indoor models are provided from the 20-inch reservoir supply pipe. A steel flume, 165 feet long, discharges into a measuring basin equipped with double action gates for diverting the flow to an underground conduit leading outside to the creek. Water from the models is carried by a return channel through a sand trap, across an interior measuring basin and back into the deep reservoir. Two centrifugal pumps, electrically driven, insure continuous operation in dry seasons.

Lieut. Herbert D. Vogel, assistant to

the president of the Mississippi River Commission, is in charge of the experiment station. Plans for the building



Study of Railroad Embankment Overflow

were prepared by Jeff Posey of the Vicksburg office of the United States Corps of Engineers.

Lexington Construction Activity

Lexington, Ky.—A substantial increase in the number and value of building permits issued in Lexington for May, as compared with April, strikes an encouraging note. Figures for last month indicate the cost of construction as approximately \$50,000 in excess of construction for April, without taking into account new and repair work in Lexington suburbs.

Churchill and Gillig, local architects, have been commissioned by the Treasury Department, Washington, Jas. A. Wetmore, Acting Supervising Architect, to prepare plans and specifications for the new post office and Federal court building here and construction is expected to be started soon. It is understood that plans have been prepared for the Federal Narcotic Farm, to be established on a 1050-acre tract on the Lees-town road, near Lexington, at a cost of approximately \$4,000,000, and construction on this project is also expected to be under way in the near future. Progress is being made on the new agricultural engineering building at the University of Kentucky and this structure is expected to be completed by August 1.

Clinton M. Harbison, local attorney, is erecting a residence on Winchester road. Hugh R. Taylor building contractor, has completed a number of residences in Ashland Park and is breaking ground for an additional home. Three municipal projects ordered by the city promise to employ a large number of laborers—a street widening contract having been awarded to Louis des Cognets & Co., and contracts to the Carey-Reed Company for street and sewer construction.

Natural Gas Industry Growth Spectacular

Extensive Pipeline Systems Completed to Serve Great Industrial Centers of the Middle West and the States of the Eastern Seaboard

DEVELOPMENT of the natural gas industry has progressed so rapidly during the past four years that at the end of 1930 it had attracted investments totaling more than \$2,500,000,000, and including the manufactured gas industry it has outgrown the telephone and telegraph business. The two branches of the gas utility business now rank fourth in the public utility field, with steam railroads first, electric power and light units second and electric railways third.

For about 40 years, the natural gas industry consisted of local service extended to a few small communities in northern New York, western Pennsylvania, Texas and Oklahoma. In other natural gas areas, the fuel was considered either a menace to public safety or else its potentialities were ignored. In 1926, however, the industry came into its own with the discovery by pioneers in the field that by employing certain pipe line construction methods and using a new type of pipe, the gas could be transported long distances to the rich markets at middle Western and Eastern cities. With these developments, natural gas sales increased rapidly, the 1930 volume being approximately 1,850,000,000 cubic feet and the estimated sales for 1931 being placed at more than 2,000,000,000 cubic feet.

Ford, Bacon & Davis, Inc., internationally known engineering firm formed in 1894, an organization which has surveyed, constructed or acted in other capacities on more natural gas mileage than any other engineering firm in the world, in a brochure just issued describes a number of the major natural gas projects with which it has been associated in recent years.

The brochure deals with lines totaling 4048 miles in length but does not include several large projects with which it has recently been identified, namely, the 960-mile Texas-Chicago system now under construction and the Longview-Shreveport line just completed.

The longest line in point of total mileage is the Southern Natural Gas Company system which extends from the Monroe-Richland field in Louisiana to

Atlanta, Ga. This system includes 429 miles of main trunk line, 67 miles of feeder lines and 829 miles of branch lines. A total of 19 river crossings were necessary in piping the fuel across Mississippi, Alabama and parts of Louisiana and Georgia, the crossing of the Mississippi River alone involving six lines of 10½-inch pipe and two lines of 16-inch pipe. Two compressor stations and 450 miles of telephone line complete the equipment of the main line which has a capacity of 100,000,000 cubic feet daily and a potential capacity of 150,000,000 cubic feet when additional stations are constructed.

Other large systems are the 569 miles of main and branch lines of the Colorado Interstate Gas Company and the Canadian Gas Company; the 465-mile line of the Mississippi River Fuel Corporation; 210-mile system of the Memphis Natural Gas Company; the Interstate Natural Gas system and others.

Wool Consumption Increases

A marked increase in consumption of domestic wool has more than offset decreased consumption of foreign wool, says the Bureau of Agricultural Economics. Total consumption by United States manufacturers the first four months of this year is reported at 3,728,000 pounds greater than for the same months of 1930 when consumption was at a low level. Consumption of domestic wool increased 13,641,000 pounds in the 1931 period whereas consumption of foreign wool declined 9,913,000 pounds.

\$1,245,000 Post Office Bids

Fort Worth, Tex.—Drawings and specifications for a new \$1,245,000 post office here have been completed and construction bids will be opened July 2 in the office of Jas. A. Wetmore, Acting Supervising Architect, Treasury Department, Washington. Elevators, dumbwaiters and lighting fixtures will be awarded later. Wyatt C. Hedrick, Inc., Fort Worth, is the architect.

Electricity *on the* Farm

By
R. L. HOLMAN
Nashville, Tenn.

NO work of man is more synonymous with human progress than the methods by which he has harnessed the different sources of electric energy. One hardly can imagine what existence now would be without the electrical development that has transpired since Edison made the first incandescent lamp, more than 50 years ago. It would be almost like the middle ages.

Marvelous as this electrical progress has been, it was only comparatively recently that its splendid possibilities became available to the farmer. For almost a half century while it was creating new industries, changing old customs, revolutionizing personal habits and thoughts and building up a new civilization, the farmer could only keep his distance and wonder. This colossal devel-

opment was his to see and to admire, but not to use.

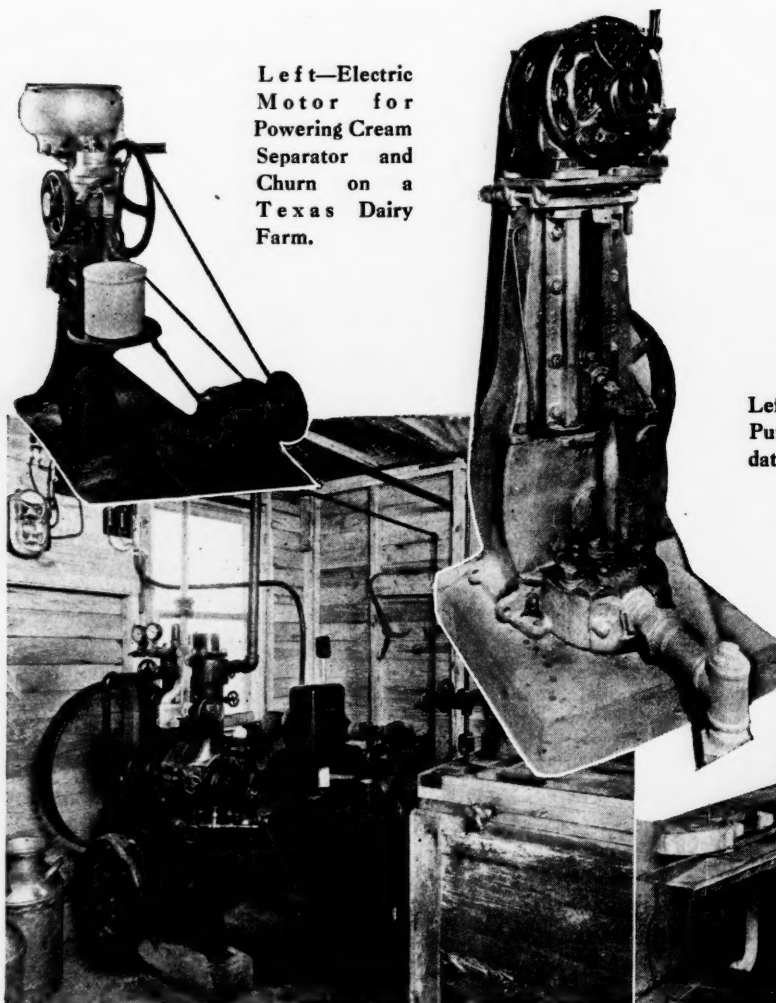
A few years ago, however, things started happening. Public power companies began to find out that the average farmer could find more potential uses for electric current than the average city customer. They began to find that extension of their lines into accessible rural territory was profitable. Another thing that happened was the develop-

ment of the independent farm lighting plant that made electricity available to the most isolated farms.

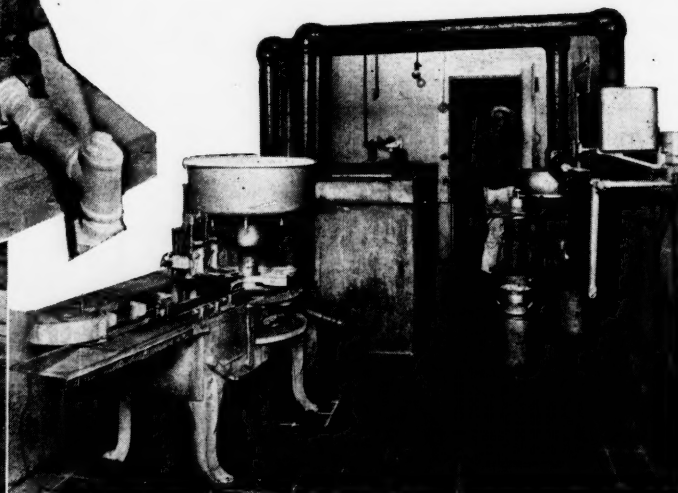
Some idea of the extensive use of electricity on the farm is shown in the fact that the present number of farm consumers of electric current in the United States is greater than was the total number of electrical consumers in both the city and the country 25 years ago. According to an estimate prepared by the National Association of Farm Equipment Manufacturers, there are now over 1,000,000 farmers using electricity. Half of this number use electricity from independent farm lighting plants. Within the past three years, 125,000 farms have been connected with public light and power lines.

Possibly the greatest impetus given the extension of power lines into farming sections is the consolidation of individual city power units into large state and interstate power companies. These large companies with their network system can extend lines at one-third the cost of small power units. At the present time, electric service has been extended by power companies to every city of 5000 inhabitants and over; to 97 per cent of all communities between 1000 and 5000; to 50 per cent of all commu-

Left—Electric Motor for Powering Cream Separator and Churn on a Texas Dairy Farm.



Left—An Automatic Deep-Well Pump Which Serves an Up-to-date Livestock Farm in Texas.



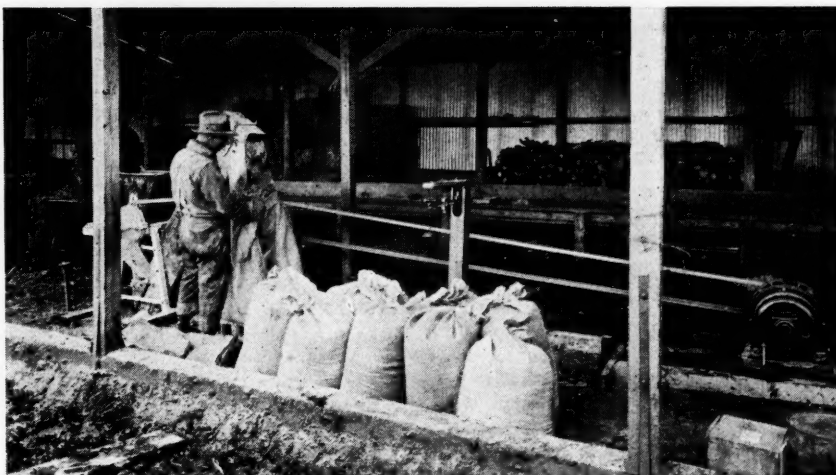
Refrigeration Unit Installed by a Dairyman at Roanoke, Texas.

Electrically Operated Dairy Equipment on a Farm in Alabama.

nities between 250 and 1000, and to more than 25 per cent of all hamlets under 250 population. This means that more than 17,000 electric supply centers have been created for possible further extension into rural territory.

There is probably no section of the country where the waterpower possibilities are greater than in the South, which for the past decade shows a greater percentage of increase than any other section in the eastern part of the United States. In 1921, New England had 16.5 per cent of the waterpower development of the country; since that time, it has dropped to 12.7 per cent. The Middle Atlantic States have declined from 18.7 per cent to 14.9 per cent. The East North Central States have declined from 9.3 per cent to 7.3 per cent.

On the other hand, the South Atlantic and East South Central States had in 1921 only 16.7 per cent of the waterpower development of the country and during the 10 years that have elapsed since that time they have climbed to 28.8 per cent of the nation's total waterpower development. This record of achievement gives a clear vision of the



Feed Grinder on a Farm at Addison, Texas.

Coarse Johnson Grass hay is ground by means of this equipment, "reducing the amount of refused hay from 60 per cent to less than one per cent"

wonderful possibilities the future holds for the development of electric power on Southern farms.

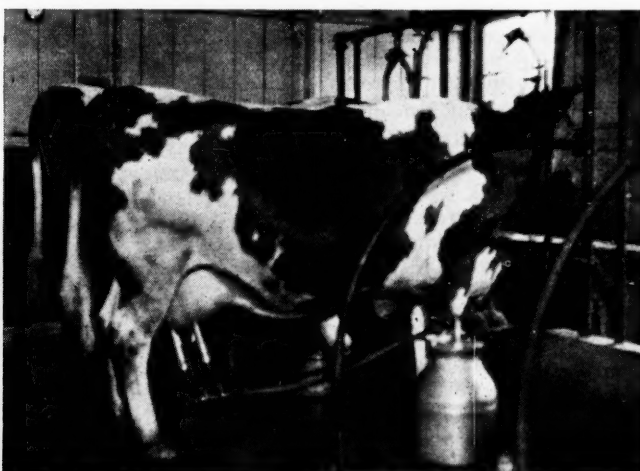
The great significance in the extension of rural service to farms lies in the im-

mense amount of labor it is capable of saving. This new hired hand of the farmer not only is dependable and willing, but also is cheap. This is another fact of great significance in an age when

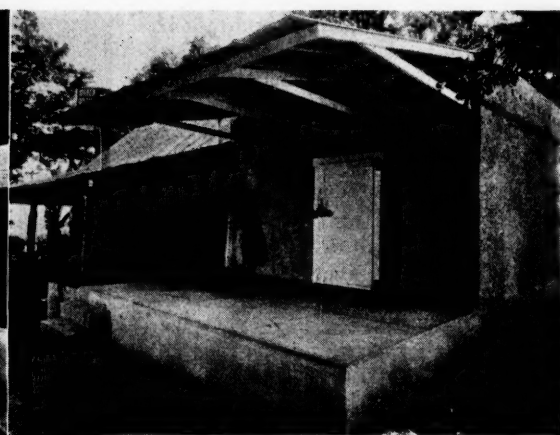
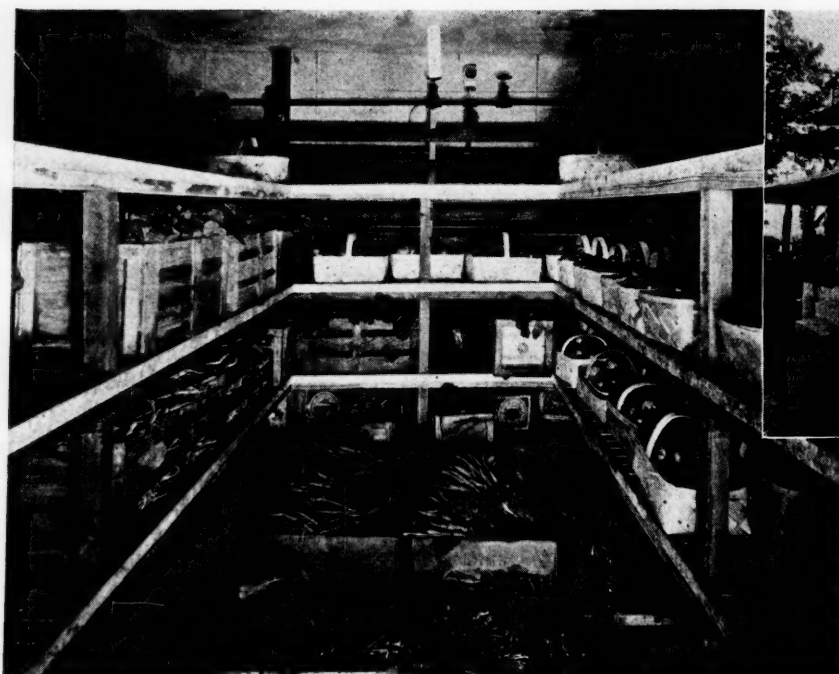
An Electrically Operated Irrigation System in Georgia.



Milking Cows by Electricity at a Dairy Near Atlanta.



Livestock on This Alabama Farm Are Kept Supplied With Water by an Electric Pump Which Works Automatically.



Above—Exterior of Plant.

Left—Showing Interior of the Electric Refrigeration Plant of R. F. Sams, Jr., Truck Farmer of Clarkston, Ga. Note the Liberal Space for Storage of Vegetables.

the labor question is one of the most harassing problems with which the farmer has to contend. Five cents worth of electric current on the farm will milk 10 cows, separate 1400 pounds of milk and cream, churn 20 pounds of butter, sharpen an ax six times on a grindstone, pump two-days supply of water for people and livestock on the average farm, run a sewing machine five hours or do two big family-washings. It seems that electricity came into this country through the back door—it should have come to the farm first. The farmer has 10 times as many profitable uses for it as the average city consumer.

Among the advantages of electric current on the average farm is the ease with which it can be tied onto a farm system of waterworks. All that is now necessary is a dependable water supply and available electric current. The water supply can be either a creek, spring, cistern or well. The current can be from either a public power line or an independent farm lighting plant, which can be bought for a reasonable sum.

The waterworks system consists of a motor, a pump, an air-pressure tank and sufficient piping to put the water wherever it is desired. Whenever a faucet is opened, the air pressure in the water tank forces the water through the faucet. As the air pressure in the tank goes down in forcing the water out, it closes a switch. When the switch closes, it starts the motor to pumping water back into the tank to replace what has been drawn out. When the air pressure goes up again after the faucet has been turned off, it throws the switch open and stops the pump. This system works

automatically and not only gives the farmer a cheap method of watering all his stock, but also makes it possible for him to have hot and cold water always on tap, and to enjoy other water conveniences.

On a Virginia farm where water was obtained from a spring 271 feet from the house, it was found that the housewife in a year's time carried as much as 27 tons of water to the house, and in so doing walked a distance of 112 miles. An electric motor could have delivered all that water at a faucet in the kitchen for less than \$5. An electric washing machine can now do the family laundry work, without any overseeing and while the housewife is attending to other duties. In a survey of 429 electrified farms, it was found that two-thirds of the farms surveyed had washing machines and 10 per cent had electric ranges, as compared with only 7 per cent in the towns studied at the same time. On farms where a large amount of perishable commodities is produced, such as vegetables, cream, milk, etc., an electric refrigerator no doubt pays for itself several times over, besides eliminating the handling of large quantities of ice. On many Southern farms, the use of electric current to operate milking machines, separators and electric milk coolers has become almost indispensable in the dairy operations.

For the average poultryman who raises poultry on a more or less large scale, the use of electricity has been very profitable. It has been found that during the winter, when the days are short, hens do not have enough daylight hours to lay as high a number of eggs as they are capable of doing in longer days. By turn-

ing on the lights in the poultry house as darkness comes on, the hens continue eating their feed and exercising under the glare of electric lights and are thus made capable of a heavier egg production. An experiment was run by a Southern agricultural college where one flock of 500 hens was handled under electric lights and another flock of 500 was handled under the same conditions, except that it did not have the lights. The flock with the lights laid enough more eggs to pay for a complete independent farm lighting plant in two years.

The profitable uses that can be made of electric current on Southern farms include operation of ensilage cutters, corn shellers, sheep shearers, threshing machines, grindstones and many other appliances. The amount of human and animal labor electricity can displace is enormous.

The main problem in the way of public power line extension into rural sections is the high cost of line mileage per consumer. The average city line has 150 consumers per mile, while the farm lines average about three. It costs approximately \$1200 per mile to build these lines. The farmer must use a lot of current to make it profitable for the power company. It has been estimated that an average consumption of 100 kilowatt-hours per month on each farm will return a profit to the company furnishing the current.

To the millions of farms that are not accessible to public power lines, the independent farm lighting plant is a profitable possibility. There are now approximately 100,000 of these independent units on Southern farms.

Tulsa Completes New Union Station

WITH the formal opening of the new union station at Tulsa, Okla., the city may lay claim to one of the most modern structures of its kind in the Southwest. Railroads participating in construction of the station, including the Atchison, Topeka & Santa Fe, the St. Louis-San Francisco, and the Missouri-Kansas-Texas lines, organized the Tulsa Union Terminal Company, with J. E. Hutchinson, St. Louis, president, to handle the project. In connection with an elevated street project, the new station represents a cost of approximately \$3,000,000, borne jointly by the railroads and the city. It is important as relieving downtown traffic congestion, since overpasses are provided on three thoroughfares which heretofore have been blocked by railroad trains, and it opens up to traffic one street which has been a dead end street for a quarter of a century.

The station extends the full block between Cincinnati and Boston avenues, and an overpass on the former has been made 58 feet wide to permit an inclined roadway to parallel it from the intersection with First street. While the old station stood directly across Boston avenue, design of the new structure permits this thoroughfare to become an 80-foot roadway, providing a direct traffic route from center of the business district to north side. Main street and Boulder avenue, one and two blocks west of the station, respectively, are also raised over the tracks with 80-foot roadways, and Boston avenue is connected with Main street by an overhead footway parallel to the tracks. Although comprising but two floors; namely, the track or ground level and viaduct and main floor level, the station is comparable to a 5-story structure. It is of modern architecture

and its various units cover an area of approximately 27,000 square feet. Main waiting rooms, concourses, ticket offices, coffee shop and other facilities are on the viaduct level, while baggage and mail rooms are on the track level some 20 feet below. A power house, incinerator plant and express building are also on the lower level west of the main structure and each is supplied by tracks.

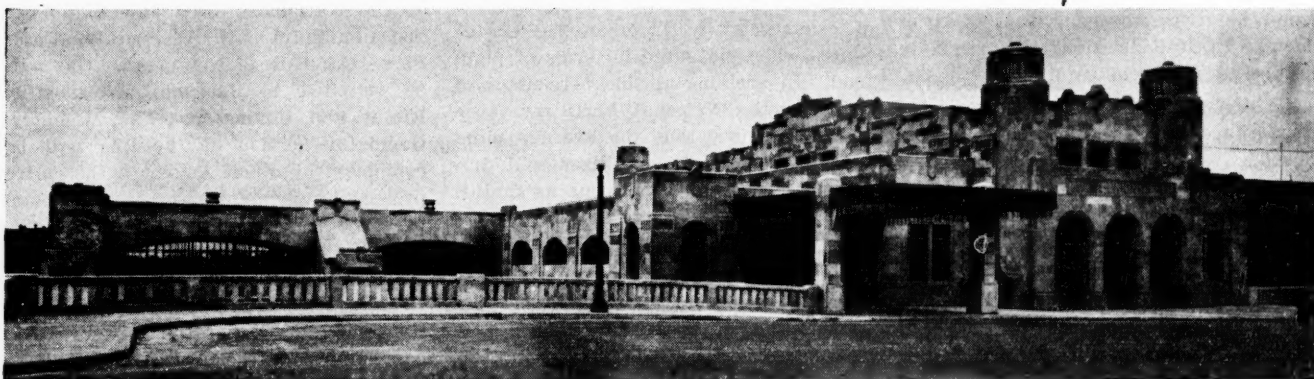
From a general concourse, patrons enter waiting rooms through a vestibule which leads also to coffee shop, baggage check room, drug store, barber shop and train gate. Near the building center, extending transversely over the several tracks is the train concourse through which trains on the lower level are reached by means of six covered stairways. Main waiting room is flanked on the south side by rest rooms for women, and men's smoking quarters, having direct connection with telephones and other facilities. On the north side there is direct connection with travelers' aid room, drug store and news stand and entrance vestibule to the general concourse. Plans for the building were prepared by R. C. Stephens, St. Louis, architect for the Frisco Lines, and general contract was handled by the Manhattan Construction Company, Tulsa. The following sub-contracts were awarded:

Brick—Acme Brick Co., Tulsa
Electrical work—Allen Electric Co., Tulsa
Sprinkler installation—Automatic Sprinkler Corporation of America, Cleveland, O.
Form Tyscrus—B. & A. Specialty Co., Tulsa
Glass—Binswanger & Co., Memphis, Tenn.
Concrete—Builders Supply Co. and Builders Concrete Co., both Tulsa
Pre-cast roof slabs—Brock Brothers Manufacturing Co., St. Louis, Mo.
Paving—H. L. Cannady Co., Tulsa
Flooring—Carter Bloxonend Flooring Co., Kansas City, Mo.

Marble—Carthage Marble Corp., Carthage, Mo.
Tile—Clay Products Co., Brazil, Ind.
Cut stone—Consolidated Cut Stone Co., Tulsa
Stone setting—William E. Giordano, Oklahoma City, Okla.
Heating, plumbing and drainage—Grinnell Heating Co., Kansas City, Mo.
Sheet metal work—Hall Sheet Metal Works, Tulsa
Cold storage door—Hamilton Co., Inc., Tulsa.
Steel partitions—E. F. Hauserman Co., St. Louis
Millwork—Huttig Sash & Door Co., St. Louis
Steel—Kansas City Structural Steel Co. and Patterson Steel Co., both Tulsa
Steel and iron—J. B. Klein Iron & Foundry Co., Tulsa
Wrought iron windows—David Lupton's Sons Construction Co., Dallas, Tex.
Excavating—W. M. McMichael, Tulsa
Wrought iron window sash—Mesker Brothers Iron Co., St. Louis
Vault—Mosler Safe Co., Hamilton, O.
Overhead doors—Overhead Door Company of Oklahoma, Tulsa.
Asbestolith flooring and base—Sanitary Flooring Co., St. Louis
Lath and plaster—D. C. Sneed Plastering Co., Tulsa
Magnolia cement—Southern Cement Co., Birmingham, Ala.
Iron—Southwest Ornamental Iron Co., Kansas City, Mo.
Composition roofing—Standard Roofing & Material Co., Tulsa
Doors and frames—Thorpe Fireproof Door Co., Minneapolis, Minn.
Tile work—Tulsa Marble & Tile Co.
Terrazzo floor and base—United Tile & Marble Co., Tulsa
Toilet compartments—Henry Weiss Manufacturing Co., Elkhart, Ind.
Waterproofing—Western Waterproofing Co., St. Louis

Bids on \$700,000 Hospital

Huntington, W. Va.—The United States Veterans Bureau, Washington, opens bids June 23 to construct buildings and utilities, including roads, walks, grading and drainage for a \$700,000 U. S. Veterans Hospital here.



This \$3,000,000 Structure Provides Up-to-date Passenger Traffic Facilities for Tulsa, Oklahoma

Chemistry and the South

In expressed belief that chemistry is "a subject that is interwoven in the economic life of the South and in which the South's leadership must be exerted," Senator Pat Harrison of Mississippi spoke on "The Effect of Chemistry in the Development of the South," in the baccalaureate address at Mississippi A. & M. College. As a member of the Senate committees on Agriculture and Finance, he said, his studies of the problems of agriculture, reforestation and tariff construction had convinced him that "chemical applications have wrought wonders and are destined to be still greater forces in the progress of the world."

Active and constructive development of American chemistry, Senator Harrison said, had been initiated by the exigencies of the world war. Nitrates and medicines and dyes, for instance, had been in imperative demand.

"Our educational institutions, as well as industrial institutions, that had formerly paid little attention to chemical research, changed their policies," he continued. "Budgets were enlarged and capital was provided. Young men began to experiment. Scientists began their investigations. Chemical laboratories were constructed everywhere and, in a little while, we were startling the world with our new discoveries. Today, we rank foremost among all the nations in chemical science."

The progress and achievements of chemistry he considered the key to the industrial advancement of America. In agriculture, chemistry provides fertilizer, and protection against crop pests. In industry, "the South cannot possibly make the most of its strategic position by being content to transport its raw materials into other sections or other countries, to be transformed into finished products," and chemistry is a tremendous factor in manufacturing. Aside from chemistry, the enactment of "prudent and fair legislation" is a requisite in the attraction of capital.

"While we have witnessed a veritable renaissance in the last decade in the South," said Senator Harrison, "we now are plunged into what chemists call an age of cellulose. Vast industries depend on it as their raw material. What may be the by-product of one industry may be the raw material of another. It is through the processing of so many products that chemistry has utilized every waste in creating by-products."

So it is that chemistry has influenced

the making of steel, and has given value to blackstrap and bagasse, and evolved a starch from white and sweet potatoes. The transformation of cottonseed from waste stuff into a wide variety of valuable products was cited, and the part of chemistry in the making of rayon. The manufacture of wood pulp in the South will be stimulated by chemistry, he continued, and mentioned a score of instances in which the huge value of chemistry is demonstrated.

"We are blessed as no other section is blessed, in the countless and unlimited character of our raw materials," Senator Harrison concluded. "If the South is to take advantage of these great opportunities, we must keep pace with the progress of the day and keep alive to every opportunity. I want to see a still greater industrial awakening in the South than we have yet experienced."

With the great natural resources at hand, only proper interest and cooperation and enthusiasm are needed to assure further tremendous progress.

Fertilizer Consumption

According to the National Fertilizer Association, the consumption of commercial fertilizer in 1930 established a new high record. Based on tag sales, the consumption amounted to 8,109,000 tons last year compared with 7,974,000 tons in 1929, 6,195,000 tons consumed for the five-year average 1920-1924, and 6,135,000 tons for the five-year average 1910-1914.

Not only has the quantity of fertilizer used increased, but there has been an improvement in the quality of fertilizer manufactured in recent years. Compared with the record for the five years, 1910-1914, statistics for 1930 indicate that there has been a gain of approximately 70 per cent in consumption of commercial fertilizer in the United States when measured in terms of plant food. In arriving at this percentage of increase, the National Fertilizer Association assumes that the average plant food content of the fertilizer sold during 1910-1914 was 14 per cent, as against 18 per cent for the year 1930.

Sectionally the largest tonnage gain was made during 1930, as compared with 1929, in the Southern States. The total consumption of 1930 was 5,953,000 tons, as compared with 5,823,000 tons in 1929. More than 73 per cent of the country's total fertilizer consumption in 1930 was in the South.

Combine Harvester Made at Tulsa

Tulsa, Okla.—Plans have been made by the Braden Steel and Winch Company, of this city, to manufacture a combine harvester, according to R. H. Bartlett, president. Tentative production plans call for the employment of 150 additional men this summer. The machine was developed by P. J. Hanson, engineer, and is designed to cut grain, thresh it as it moves through the wheat field and deposit the grain into a tank attached to the machine. It is said to be capable of harvesting approximately 40 acres daily, moving at a speed of 3.5 miles per hour and requiring only two men to operate.

\$2,490,000 Houston Bonds

Houston, Tex.—Bids will be opened July 6 in the office of City Controller Harry A. Giles for the purchase of \$2,490,000 Houston bonds to include the following: Drainage, \$136,000; sanitary sewers, \$400,000; waterworks, \$486,000, and special improvements in connection with the Southern Pacific passenger station project, \$350,000, all to bear a 4½ per cent interest rate; drainage, \$220,000; waterworks, \$130,000; street improvements, \$240,000; fire station, \$40,000; paving, \$40,000; general improvements, \$40,000; bridge, \$88,000; bridge and subways, \$80,000, and parks, \$40,000, all to bear a 5 per cent interest rate.

100-Mile Gas Line Extension

Memphis, Tenn.—The Memphis Natural Gas Company, an affiliate of the Appalachian Gas Corporation, New York, is extending its main pipe line from Memphis to Jackson, Tenn., a distance of 100 miles. This will give the company a total main line mileage of 352 miles. The extension will serve a large territory in Western Tennessee, through arrangements with the West Tennessee Power & Light Co., subsidiary of the National Power and Light Co. and an affiliate of the Electric Bond and Share Co., both of New York. Gas will be supplied to Jackson, Brownsville, Ripley and Covington. The Memphis-Covington section of the line will be completed by about August 1, the entire project by September 1. A new compressor station will be built on the outskirts of Memphis. The company already has stations at Guthrie, La., and Benoit, Miss. The Ford, Bacon & Davis Construction Corporation, New York, contractors for the new extension, have opened offices at Covington, with H. A. B. Prindle as engineer in charge of construction.

Drainage Census Figures

PRELIMINARY figures on drainage in the 1930 census show the South to have 30.9 per cent of all the country's land in drainage enterprises and 31.6 per cent of the total capital invested in such enterprises. Of 84,815,500 acres in drainage enterprises in the country, the South has 26,211,700, and of \$682,562,400 so invested, the South contributes \$215,747,400. The number of drainage enterprises in the whole country is 67,713, of which 2,663 are in the South.

Of land drained fit for normal crops, there are 66,386,500 acres in the United States, of which 17,003,200 are in 13 Southern States, Alabama, Maryland and West Virginia not appearing in the report. This gives the South a percentage of 25.6. The area partly drained and fit for partial crops in the South is 5,196,700 acres, or 48.2 per cent of the 10,777,700 for the entire country. The total land in occupied farms is 69,105,400

acres for all the states, with 15,006,700, or 21.7 per cent, in the Southern States, minus the three mentioned.

In open ditches, the South shows 36,306 miles, which is 28 per cent of the mileage of 130,457 for the country. Levees and dikes in the South run to 3,097 miles, or 40.6 per cent of the 7,612 total, while the tile drain mileage of 209 in the South is a minor item in 60,231 miles for all the states.

DRAINAGE CONDITIONS, 1929

| States | Open Ditches (Miles) | Levees and Dikes (Miles) | Tile Drains (Miles) |
|----------------------|----------------------|--------------------------|---------------------|
| Arkansas | 5,596 | 283 | .. |
| Florida | 4,595 | 756 | 4 |
| Georgia | ... | ... | 4 |
| Kentucky | 1,181 | ... | 5 |
| Louisiana | 7,496 | 613 | 8 |
| Mississippi | 4,277 | 227 | 43 |
| Missouri | 5,558 | 940 | 123 |
| North Carolina | 1,487 | 22 | ... |
| Oklahoma | 364 | 1 | 8 |
| South Carolina | 431 | 11 | 6 |
| Tennessee | 1,457 | 29 | .. |
| Texas | 3,824 | 215 | 8 |
| Virginia | 40 | ... | .. |
| Total, South | 36,306 | 3,097 | 209 |
| United States | 130,457 | 7,612 | 60,231 |
| South's Percentage | 28% | 40.6% | .3% |

DRAINAGE CONDITIONS, 1929

| States | Land Drained Fit for Normal Crops (Acres) | Partly Drained Fit for Partial Crops (Acres) | Total Land in Occupied Farms (Acres) |
|-----------------|---|--|--------------------------------------|
| Arkansas | 3,680,200 | 650,200 | 3,691,000 |
| Florida | 1,974,100 | 2,606,700 | 443,200 |
| Georgia | 46,600 | 13,600 | 63,800 |
| Kentucky | 446,200 | 117,000 | 534,900 |
| Louisiana | 2,418,000 | 368,900 | 2,502,300 |
| Mississippi ... | 2,418,900 | 265,000 | 2,198,200 |
| Missouri | 2,753,000 | 388,700 | 2,659,700 |
| North Car. | 424,700 | 136,800 | 331,400 |
| Oklahoma | 139,000 | 21,200 | 157,700 |
| South Car. | 137,700 | 34,000 | 95,300 |
| Tennessee | 363,300 | 95,600 | 414,100 |
| Texas | 2,185,400 | 485,300 | 1,899,200 |
| Virginia | 16,100 | 4,100 | 15,900 |

| | | | |
|--------------------|------------|------------|------------|
| Total, South | 17,003,200 | 5,196,700 | 15,006,700 |
| United States | 66,386,500 | 10,777,700 | 69,105,400 |
| South's Percentage | 25.6% | 48.2% | 21.7% |

DRAINAGE CONDITIONS, 1929

| States | Land in Drainage Enterprises (Acres) | Capital Invested in Enterprises | Number of Enterprises |
|-----------------|--------------------------------------|---------------------------------|-----------------------|
| Arkansas | 4,979,700 | \$ 40,908,600 | 320 |
| Florida | 5,961,400 | 45,477,700 | 145 |
| Georgia | 84,200 | 1,916,500 | 58 |
| Kentucky | 628,800 | 5,357,600 | 216 |
| Louisiana | 3,568,400 | 22,736,500 | 739 |
| Mississippi ... | 2,967,800 | 25,597,900 | 344 |
| Missouri | 3,450,800 | 46,292,700 | 364 |
| North Car. | 686,400 | 4,760,500 | 131 |
| Oklahoma | 165,900 | 2,251,000 | 33 |
| South Car. | 203,400 | 1,504,500 | 30 |
| Tennessee | 603,300 | 6,412,200 | 192 |
| Texas | 2,886,300 | 12,116,300 | 87 |
| Virginia | 25,300 | 415,400 | 4 |

| | | | |
|--------------------|------------|---------------|--------|
| Total, South | 26,211,700 | \$215,747,400 | 2,663 |
| United States | 84,815,500 | \$682,562,400 | 67,713 |
| South's Percentage | 30.9% | 31.6% | 3.9% |

Bids on Hospital Group

Jackson, Miss.—Bids will be opened June 26 by the State Hospital Removal Improvement and Land Sale Commission for group No. 2 of negro buildings for the \$5,000,000 Mississippi Hospital for the Insane under construction in Rankin County, near Jackson. This group will consist of six patients' cottages, two infirmary buildings, two attendants' cottages and electric power distribution. N. W. Overstreet, Jackson, is the architect, and Vinson B. Smith, Gulfport, Miss., advisory architect.

American Institute Electrical Engineers

The 1931 summer convention of the American Institute of Electrical Engineers, W. S. Lee, president, New York, will be held at the Grove Park Inn, Asheville, N. C., during the week of June 22. Technical and business programs cover topics of broad scope, while symposiums will take up three sessions—one on the subject of system interconnection, another on communications systems for electric utilities and the third on the history of electrical units, the volt, ampere and ohm. Other sessions will be devoted to late developments in power cables, automatic stations, electrical machinery and research. Business details of the convention will include the annual meeting of the Institute, a consideration of the report of the vote tellers' committee covering the election of officers for 1931-32, the address of President Lee and the presentation of prizes for papers. Dr. William J. Foster, Schenectady, N. Y., will be presented the Lamme medal "for his contributions to the design of rotating alternating current machinery."

\$5,000,000 Bond Sale

Jackson, Miss.—Bids will be received July 1 by the State Bond Commission for the purchase of \$5,000,000 state bonds, funds from the sale to be used to advance cash on 5000 deposit guaranty certificates issued by state banks that failed prior to March 11, 1930.

Electric Output Below 1930 But Ahead of 1928

Production of electricity by the electric light and power industry for the week ended June 6 was 1,561,810,000 kilowatt hours, according to the Statistical Research Department of the National Electric Light Association. This is 2.9 per cent below the corresponding period in 1930, but an increase over 1928.

The Atlantic seaboard shows an increase of 4.4 per cent in electrical output from last year. The great central

industrial region, outlined by Buffalo, Pittsburgh, Cincinnati, St. Louis and Milwaukee, registers as a whole a decrease of 7.8 per cent below last year. The Pacific Coast shows a decrease of 0.2 per cent.

OUTPUT IN KILOWATT HOURS OF THE LIGHT AND POWER COMPANIES DURING RECENT WEEKS

| Week-Ended | 1931 | 1930 | 1928 |
|------------|---------------|---------------|---------------|
| May 16 | 1,614,135,000 | 1,668,874,000 | 1,470,000,000 |
| May 23 | 1,600,063,000 | 1,673,356,000 | 1,480,000,000 |
| May 30 | 1,564,576,000 | 1,626,717,000 | 1,370,000,000 |
| June 6 | 1,561,810,000 | 1,607,627,000 | 1,480,000,000 |

IRON, STEEL AND METAL MARKET

Decline in Steel Production

Lessens Slightly

Pittsburgh, June 15—[Special.]—The decrease in the rate of steel production is less, presumably in preparation for rounding the usual turn in July, regularly the low month of the year. By the official reports, steel ingot production decreased 9 per cent March to April but only 8 per cent April to May, and as the latter percentage is figured on a lower base the loss in number of tons was decidedly smaller. Estimating rates week by week, last week and week before were both at about 40 per cent of capacity, whereas for weeks previous there had been one to two points drop each week. With production losing less than formerly there is a chance that next month will not run below December, but only a chance. In the past, July has nearly always been below the preceding December.

The Steel Corporation's unfilled obligations decreased by 277,277 tons during May and that reflected a very small amount of new buying, as it represented 18 per cent of capacity while shipments in the month may be estimated at about 47 per cent, indicating bookings at about 29 per cent. It is the regular thing, as a seasonal matter, for May to show a decrease, for the month has done so every year since 1922. In that year steel was engaged in a long range recovery.

Lately there have been visible only seasonal swings in steel requirements of the various consuming industries. The large and general decrease, after allowing for seasonal variation, occurred August, 1929, to December, 1930, inclusive. Demand by the automobile industry reached its highest level in the fore part of April, just about on time, and it has since been decreasing. Whether the seasonal decrease will be more or less than usual remains to be seen. Rail production began to slip rather earlier than usual. The Chicago district is now down to a low rate but on the other hand rail production in the Pittsburgh district was resumed last week, on 152-pound rails for the Pennsylvania Railroad. Freight car building dwindled to insignificant proportions months ago. Farm implement production has not been at all heavy for nearly a year and lately the industry has been taking little steel except for repair parts.

Fabricated structural steel work is in a class by itself, and has been making a rather mixed showing. It held up remarkably well nearly all last year, then falling off. Lettings in the last two

weeks have been above the average, but for six weeks preceding were well below the average. Shipments of the shops have been decreasing almost month by month, beginning last November but now they are perhaps down to as low a level as the present order book promises for the next few months. This is one of the activities which took a long time to lose momentum.

Steel companies are practicing rigid economies all along the line except by way of wage reductions, which apparently have occurred only with a few small producers. Some large companies have been reducing salaries sharply, others maintaining salaries but reducing working forces. All along there has been a policy of dividing work, and keeping relatively inefficient and high cost plants in partial operation, but in the last couple of weeks there have been forced departures and some high cost finishing departments have been closed completely. Some of these will in all probability never open again.

Steel prices do not show much news of interest. There have been no outright declines in the last week or two, but there may be a little more shading in spots. There is talk of asking higher prices on some lines for third quarter but this is not taken very seriously.

An event has occurred in the heavy melting steel market of the Pittsburgh district, prices going so low that dealers are putting scrap into yard for a rise. That used to be the regular practice, before the war, but an extra freight is involved and freights are about double what they were. There are no adequate statistics, but one dealer asserts scrap is the lowest since 1894 when the Chicago World's Fair was wrecked. The market is now \$10 to \$10.50, delivered Pittsburgh district. Mills may henceforth use more scrap, as that is well below their bare cost of producing pig iron.

No Material Change in Pig Iron

Birmingham, Ala., June 15—[Special.]—No new contracts out of the ordinary are being reported here but operations in the main are being kept up. Two blast furnaces have ceased producing iron in the last two weeks and such repairs as are needed are to be made.

In steel mill operations the estimate is still given at 50 per cent capacity. Structural steel fabrication shops have reduced working forces some but as a

whole the shops are maintaining a four days a week schedule. Plate steel fabricators have worked up some stock, standard sizes of tanks, to meet a demand which promises to become a little more active by reason of installation of additional storage at filling stations throughout the country handling a lower priced gasoline.

Other shapes of steel are in fairly good demand. Reinforcing concrete bars have been selling in fair quantity and production of this shape has been good. The Ensley Works of the Tennessee Coal, Iron & Railroad Company have kept a fairly steady schedule on rail rolling. Very few new contracts have been received, the Seaboard Air Line giving a second order for 4000 tons and a third order for 3885 tons. While no announcement is made, a survey shows there is yet four weeks rolling in sight at these works. It is hoped some new business will be placed by the railroads.

The pig iron price base is undisturbed, around \$12 to \$13, No. 2 foundry. A very small amount of iron was reported sold recently for delivery on the Atlantic coast, less than 1000 tons in the past week. Furnace interests are holding to a \$11 base on this product.

Cast iron pressure pipe shops are keeping along on the 50 to 60 per cent capacity production with little stock being carried on the yards. Warehouse stocks are being built up where necessary to meet demands for early delivery. Bids have been placed on several specifications with hopes of consummation of deals shortly.

Hardie-Tynes Manufacturing Company has completed and is shipping now a two-stage gas compressor for the Insull interests, Chicago, for the compression of mixed gases, for both lighting and industrial purposes. This compressor has a displacement capacity of 5000 cubic feet per minute and has a total weight of 170,000 pounds. The Hardie-Tynes Company has completed a large amount of the machinery for the new universal plate mill being constructed by the Tennessee Coal, Iron & Railroad Company, 2,000,000 pounds of iron and steel being used in this machinery. The universal mill being installed by the T. C. I. & R. R. Co. was designed and built by the McIntosh-Hemphill Co., Pittsburgh, mill constructors.

The coke market is easing off a little but operations are being maintained at by-product works by producing slower. The coal market is very weak and production is falling rapidly.

The State Legislature is giving the

coal, iron and steel interests a little relief in modifying the severance tax on coal and iron ore mined, a gradual decrease for the next four years being planned, ore tax being 4½ cents the ton and coal 2½ cents.

S. F. Heckert, president of the National Fireproofing Corporation, Pittsburgh, which concern a few months since purchased the plant of the Vulcan Tile & Brick Co. here, was in the city a few days ago and announced an order received for 2200 tons of tile for a big building in New Orleans and other business which will keep the Birmingham works in operation until November, with other contracts in sight that will mean indefinite operation. Mr. Heckert, head of a concern with 23 plants in the United States and one in Canada, said that his view was that business conditions were improving and he sees ahead industrial activity. The turn for the better is noticeable with his company.

PIG IRON

No. 2 foundry, 1.75 to 2.75 per cent silicon, \$12.00 to \$13.00; No. 1 foundry, 2.25 to 2.75 per cent silicon, \$12.50 to \$13.50; iron of 2.75 to 3.25 per cent silicon, \$13.00 to \$14.00; iron of 3.25 to 3.75 per cent silicon, \$14.50 to \$15.00.

OLD MATERIAL

| | | |
|---------------------------|------------|---------|
| Steel rails | \$10.00 to | \$11.00 |
| Steel axles | 12.00 to | 13.50 |
| Iron axles | 12.00 to | 12.50 |
| Heavy melting steel..... | 8.00 to | 9.00 |
| No. 1 cast | 9.00 to | 10.00 |
| Stove plate | 7.00 to | 8.00 |
| No. 1 R. R. wrought..... | 8.00 to | 8.50 |
| Car wheels | 8.00 to | 9.00 |
| Tramcar wheels | 8.00 to | 9.00 |
| Machine shop turnings.... | 4.50 to | 5.50 |
| Cast-iron borings | 4.50 to | 5.50 |
| Rails for re-rolling..... | 10.25 to | 11.00 |

Platinum Makes Price Advance of \$15 an Ounce—Zinc in Demand at Higher Figure—Lead Steady

New York, June 15—[Special.]—News of the metal markets is considerably different from that of the past many weeks in that prices of several of the major metals seem headed in an upward direction. The most spectacular and in fact stupendous rise was that in platinum which is now selling at \$40 per ounce compared with \$20 a month ago, a rise of \$15 per ounce having taken place last week. Zinc is \$3 per ton higher than a week ago; tin has been selling at over 23 cents per pound and copper is at least ¼c per pound above its recent low.

Even those metals which have not been marked up in price have shown new life as to volume of sales. Demand for lead has been steady and quite brisk. Zinc sales improved as prices were advancing. Copper sales at the close of the preceding week were in the largest volume so far this spring.

On Wednesday and Thursday all four

major metals which are dealt in on the London Metal Exchange rose sharply in price, all of which contributed to the greater confidence of the American trade. Inasmuch as the course of the metals is often barometric of commodity prices in general the developments of the past week may indicate that the long awaited turn in business conditions is here.

Business indicators now at hand show but little tangible improvement, at least in the industries. Steel production continues to slide off, though in very gradual manner. Unfilled orders of the United States Steel Corporation declined 277,277 tons in May, the second most gradual decline of the past five years, the drop in May of 1928 having been 456,311 tons. Moreover, it has been stated that the steel industry has reached the irreducible minimum and that the next change will probably be one for the better. Sales in the automobile industry have fallen off quite sharply, though that has been attributed in part to declines on the stock market. By the same token, if the market improves, automobile sales and hence production may be on the mend. Construction of public and Governmental projects continues very active, with a large number of awards in the Chicago district recently.

The sharp advance in the price of platinum is said to have been due to the fact that sellers were "disgusted with the low prices prevailing." Evidently the producers of crude platinum in Russia, South America, South Africa and Canada got together in some manner to raise the price of crude platinum. Suddenly the refiners found all districts quoting \$38 per ounce on crude platinum. Refiners thereupon charged \$40 for the refined product. Purchasers have bought in considerable volume despite the novel price advance and seem satisfied at the higher price and for two reasons: The cheapness of platinum was robbing it of that prestige which goes with a dear commodity and was inclined to hurt the metal as an article of jewelry; secondly, manufacturing consumers of refined platinum have been holding large stocks so that an increase in the price of the metal has naturally enhanced the value of their inventories.

Sales of copper so far this month have been 35,000 tons, of which half was sold for export. Prices are fairly steady at 8¼ cents for home shipment and 8.525c for export. On one recent day export sales were 5000 tons, and they reached 3400 tons again on Thursday.

The agitation for a duty on copper which has been carried on in Arizona for over a month is receiving attention throughout the United States, a leading New York daily, for instance, recently

having carried an editorial on the subject.

Price advances in some of the metals have been due to the better statistical outlook. The improvement in the lead situation has evidently become world wide as a result of the conference of world producers at London in April at which it was agreed to curtail production 15 per cent, effective May 1. The results of that curtailment are now being felt.

A strong movement is said to be on foot among the American zinc producers for a curtailment of production. Zinc statistics for May, which appeared during the past week, were more favorable than many expected inasmuch as surplus stocks declined, though the decrease was less than 200 tons. May lead statistics are expected to show a very low production. The United States lead producers were not parties to the London agreement. In this country, however, the low prices of the metal has automatically caused a considerable curtailment.

Some of the copper mines in the Michigan district recently reduced wages. With a 9-cent copper market the Lake producers are said to be losing 3 cents per pound after taxes and depreciation. The Lake producers are very anxious to keep labor forces intact during the present depression. In other years of idle periods skilled workers have drifted away from the mines into other outdoor pursuits, making it difficult to recruit suitable labor, once prosperity returned.

The price of zinc late in the week was 3.35c per pound, East St. Louis, as against 3.20c a few days previously.

Central Control Body for Japanese Cement Industry

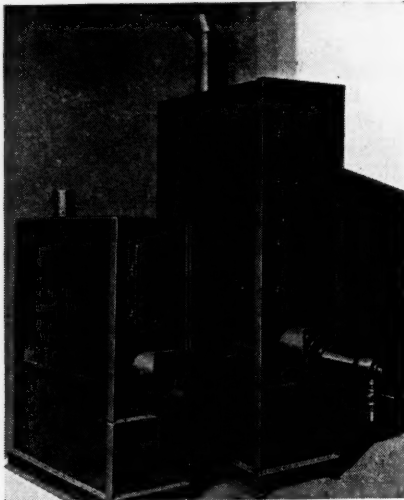
The Cement Sales Association in Tokyo and six other Japanese towns plans to establish a central organization, to attain complete control of sales throughout the country, according to Japanese information received by the Department of Commerce. A draft plan has been prepared by the Onoda, the Chichibu and other committee members, and laid before the all Japan cement sales conference, where the matter is to be discussed further.

According to W. C. Hughes, chairman of the State Board of Affairs, Oklahoma City, Okla., the state building program during the next two years will involve about \$2,000,000, of which \$450,000 will be expended for a new dormitory at Oklahoma A. & M. College.

NEW AND IMPROVED EQUIPMENT

Indirect Gas-Fired Heater

Drying Systems, Inc., Chicago, Ill., have introduced a new Dry-Sys type "L" indirect gas-fired heater adaptable to the use of gas companies, manufacturers, heating engineers and others for replacing or supplementing existing heating equipment. It may be used in practically any arrangement for fan blast work on which standard fan blast steam heaters are used, it is said, and it was developed to fill this need. The heater is built in two standard sizes, three tube or five tube high; increased capacity may be obtained by adding additional heating sections. By the use of the interior fired type of heater, the necessity of a fire-brick combustion chamber has been eliminated, making it possible to ship



Single Sections, 3 Tube High and 5 Tube High

the heater complete, ready for easy assembly into sections and quick attachment of gas manifolds, temperature controls and safety devices. The heater may be used for space heating or in connection with drying operations, and in conjunction with Dry-Sys humidifying equipment it may be used in connection with air conditioning problems.

Nickel-Clad Steel Plate

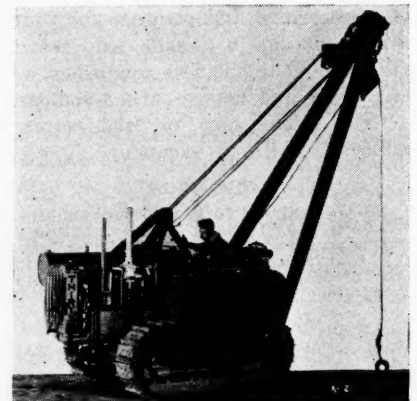
The Lukens Steel Company, Coatesville, Pa., with the cooperation of the International Nickel Company, Inc., New York, has developed a new product, a hot-rolled bi-metal of pure nickel and steel, which is being marketed under the trade name of Lukens Nickel-Clad Steel Plate. It is made up of a layer of solid nickel and a heavier layer of high grade

flange steel, the hot rolling process bonding the metals together. The product is available in all sizes of plates $\frac{3}{16}$ -inch thick and heavier, and in two grades in which the solid nickel is 10 per cent, or 20 per cent, of the thickness of the plate. Offering corrosion-resistance and other advantages of pure nickel, in combination with great structural strength, the new product is said to be available at a price that makes it economical for various uses, including the manufacture of large diameter pipe, tanks, bins, mixer bodies, pressure kettles, condenser shells, water heaters and other purposes.

"Caterpillar" With Davey and Allsteel Equipment

In order to find varied applications for the "Caterpillar" tractor, the equipment research department of the Caterpillar Tractor Company, Peoria, Ill., manufacturers of this unit, have cooperated extensively in the past several years with other manufacturers to produce equipment to be powered by "Caterpillars." The latest unit to be so developed is a combination of the Davey compressor

and a Cardwell Allsteel winch mounted on the "Caterpillar" 30. The Cardwell winch is made by the Allsteel Products Manufacturing Company, Inc., Wichita, Kans., which has specialized in meeting problems of oil field contractors and engineers. This combination, therefore, is designed particularly to meet the needs of the oil field, although railroads and engineers in other fields may find applications for it.

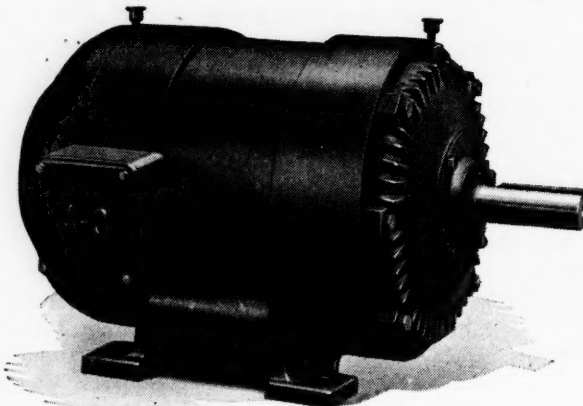


Combination Unit for Oil Field and Other Work

Explosion-Proof Motor

A new type explosion-proof motor for use in hazardous atmospheres such as oil refineries, gasoline plants, dry cleaning plants; paint, varnish and lacquer plants and similar installations, has been introduced by the Allis-Chalmers Manufacturing Company, Milwaukee, Wis. The motor is said to have been tested and approved by the Underwriters' Laboratories and carries the Laboratory label for use in class 1, group D locations. Construction is along the lines

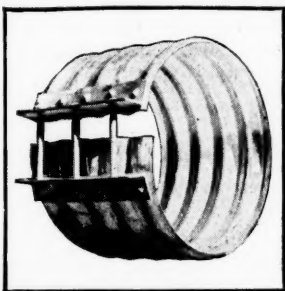
of the Allis-Chalmers totally enclosed, fan-cooled motor, of simple design, with all parts readily accessible. Special features include extra long bearing seals to prevent the escapement of flame and to cool the gases below the point of ignition; special alloy steel cap screws fitting into tapped pockets, and unusual sturdiness to resist stresses due to possible internal explosions of flashes. In addition to sealed motor leads, a special explosion-proof cast iron conduit box affords additional protection against possible contact with surrounding air.



An
Allis-Chalmers
Product
Designed
for Use
in
Hazardous
Atmospheres

Armco Culvert Connection

A new development in the nature of a connecting band for corrugated metal culverts has been announced by the Armco Culvert Manufacturers Association, Middletown, Ohio. Two types of bands have been developed for general use—type 1, with a width of 7 inches, for small and medium sized pipe, and type 2, with a width of 12 inches, for moderate and large sized pipe. The band is so designed that it will not be damaged in shipment or require extra shipping space, and it will make connections between two sections of corrugated pipe as strong as either of the sections under normal specifications. To provide for expansion so that it may be slipped over the end of the pipe by one man,

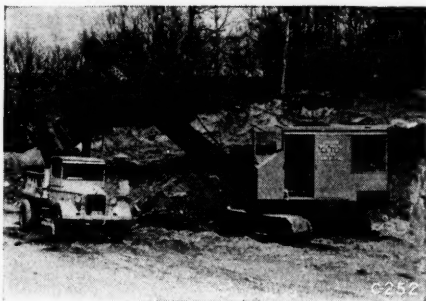


For Joining Corrugated Culvert Pipe

heavy angles are riveted on and ½-inch bolts provided to secure a well-balanced design and insure a perfect joint. Slots in the angles make it easy to draw the corrugated collar snugly in place with a single wrench.

Shovel-Dragline-Crane-Clamshell

The Bucyrus-Erie Company, South Milwaukee, Wis., recently announced a new 37-B, 1¼ to 1½ yard shovel-dragline-crane-clamshell. It is easily convertible for varied types of work and is



A Bucyrus-Erie Product

available with Diesel, gasoline or electric power, with rope or chain crowd on the shovel and regular or special extra long and wide mountings for soft ground work on the dragline. The machine is

made of Bucyrus-Erie steels and unit steel construction, with ball bearings on running shafts, large oversize clutches, enclosed gears running in oil, box girder boom and single-shaft-drive caterpillar mounting. Hoist clutches are power set and steering is accomplished from the operator's stand with the cab in any position. There is a swing brake for operating on grades.

Washable Acoustical Plaster

The Macoustic Engineering Company, Inc., Cleveland, Ohio, is marketing an acoustical plaster with a hard, washable surface, in which sound absorption efficiency is said to have been increased. The trade name of the new plaster is Macoustic 47-W and its outstanding features are stressed as: Washable, wearable surface; high acoustical efficiency, and low cost per absorption unit. For interiors where characteristics of Macoustic 47-W are not essential, it is announced that standard Macoustic still will be available.

Stainless and Heat Resisting Steels

To the development and production of U S S stainless and heat resisting alloy steels, five subsidiary manufacturing companies of the United States Steel Corporation, New York, have applied their resources and facilities, while the department of research and technology of the Corporation has also been an important contributing factor. The subsidiary companies have also the advantage of operating under rights conferred by direct arrangement with Fried. Krupp A. G. of Germany, whereby processes and patents controlled by that firm are made available.

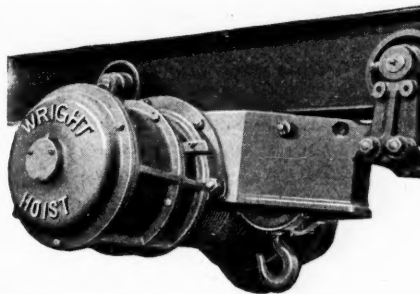
These alloys, of relatively low carbon type, as distinct from stainless cutlery grades, are broadly classified under two main headings: (a) chromium alloy steels (magnetic), and (b) chromium-nickel alloy steels (non-magnetic). A number of types and grades may be obtained in each class, differing in chemical composition, so that selections may be made to meet special requirements. The alloys are available in the form of finished and semi-finished products, the Illinois Steel Company, Chicago, with unusual facilities and equipment, producing the semi-finished alloy steels for the other subsidiaries of the Corporation, as well as its own requirements for rolling plates, bars, rounds and miscellaneous shapes. Finished products also are made by the following subsidiaries: American Sheet and Tin Plate Company, Pittsburgh, sheets and light plates;

American Steel & Wire Company, Chicago, cold rolled strip steel, wire and wire products; National Tube Company, Pittsburgh, pipe and tubular products. Chromium-nickel stainless steel products of these companies are produced under license issued by the Chemical Foundation, Incorporated, involving Strauss patents.

Typical uses of the alloys are found in their varied applications in the automotive and aeronautic industries, in manufacturing and industrial, chemical, oil refining, food handling, architectural, home appliances and miscellaneous uses.

Electric Hoist

The Wright Manufacturing Company, Bridgeport, Conn., has introduced the new Wright Type WH electric hoist. In its design, engineers of the Wright organization are said to have met minimum headroom conditions, where other



Wright Hoist, Requiring Little Headroom

types of electric hoist cannot be used, and still have kept the hoist drum and sheaves of ample size to prevent excessive cable wear. On the ½-ton hoist the minimum distance from the bottom of the I-beam to the hook is 11 inches and on the 1-ton hoist 13 inches. The new hoist includes features of the Wright standard electric hoists, such as: Option of push button or pendant rope control; Tru-Lay preformed cable, Safety type limit switch, Safety type load block, positive mechanical brake, oil bath lubrication and heat-treated forged gears and pinions.

New Magnetic Alloy

Patents have been issued by the United States Patent Office to the Westinghouse Electric and Manufacturing Company, for "Hipernik," a new metal which is said to possess unusual magnetic properties. Experimental work in the development of the alloy has been carried on by Dr. T. D. Yensen, manager of the magnetic division of Westinghouse research laboratories, while the American Rolling Mill Company, Middletown, Ohio, has arranged to produce it on a commercial basis.

HIGHWAYS AND MOTOR TRANSPORT

CHANNEL MARKERS ON FLORIDA HIGHWAY ROUTE

Lighthouse Service Maintains Markers
Along Ferry Lane of Florida
Over-Seas Highway

Traffic control lights, warning signals at danger points, caution signs of various types, and route markers are commonplace on the roads and highways of America. But to the Over-Seas Highway, linking Key West, Fla., and the mainland, goes the unique distinction of being the country's first motor vehicle way requiring maintenance of lights and beacons by the Lighthouse Service of the Department of Commerce.

A ferry lane between Lower Matacumbe Key and Harbor Key is to be so lighted by July 30. The structures for eight lights and sixteen beacons have already been installed. The ferry route which these aids to navigation will mark in connection with the Over-Seas Highway, links South Florida and Key West, permitting automobile travel. Lower Matacumbe Key on which the first of the series of lights and beacons is to be erected, is 50 miles by automobile road from the mainland of Florida. Here automobiles must board the ferry to make the crossing to Noname Key, where the Over-Seas Highway begins again, a paved road running thence into Key West.

Not only will the new lights and beacons serve to mark the ferry lane, but they are also in the nature of improvements in the inside route by means of which small craft can cruise all the way from North Atlantic ports to Key West. After leaving Miami and reaching the Keys, small boats have a choice of numerous channels between the keys leading from the Atlantic into the Gulf of Florida, and thence into the Gulf of Mexico.

\$5,000,000 Road Bonds Sold

Charleston, W. Va.—An issue of \$5,000,000 highway bonds has been sold by the State of West Virginia to a syndicate headed by the Chase Securities Corporation, New York, at 100.00204 for \$1,772,000 bonds to bear a 4½ per cent interest rate and \$3,228,000 bonds bearing an interest rate of 3½ per cent. Other firms in the purchasing group in-

clude: Harris, Forbes & Co., Hallgarten & Co., Kean, Taylor & Co., Ames, Emery & Co., B. J. Van Ingen & Co. and H. L. Allen & Co., all New York; R. L. Day & Co., Boston, Mass.; the Mercantile Commerce Company, St. Louis, and the Charleston National Bank, Charleston.

\$6,500,000 Road Contracts

Columbia, S. C.—Marked by keen competition and constituting one of the largest and most comprehensive highway lettings in the history of the state, the South Carolina Highway Commission on June 9 closed bids on 48 road and bridge projects to cost approximately \$6,500,000. Construction will cover 9 bituminous surfacing projects, 11 concrete paving jobs, and 15 grading projects, embracing a total of more than 500 miles, and 13 bridge projects.

To Resume \$2,500,000 Project

Tampa, Fla.—Plans are being made, it is said, by the Tampa-Clearwater Bridge Company, Capt. T. B. Davis, president, to resume work within 60 days on the construction of the \$2,500,000 causeway and bridge project from Tampa to Clearwater across Old Tampa Bay. A three-year extension of the franchise for construction was recently granted by the State Legislature. The project covers a causeway from the end of Michigan avenue to Rocky Point, and from Rocky Point to a point three miles in the bay, a bridge for the distance of a mile, and about 5¼ miles more of causeway, covering a total distance of 9¼ miles. Construction has been completed from Michigan avenue to the Tampa end of the causeway, with the causeway and bridge on the other side of the bay still to be built. The proposed road will be 24 feet wide and lighted for the entire distance.

\$2,000,000 for Delta Roads

Clarksdale, Miss.—According to estimates by the Coahoma County Board of Supervisors, more than \$2,000,000 will be expended in the Mississippi Delta during the present year and in the early part of next year for the construction of hard-surfaced roads. Plans are being made by Coahoma, DeSoto, Leflore, Bolivar and other counties to pave their highways and construction is already under way on numerous routes. Tala-hatchie, Tunica, Quitman, Tate and other counties are also considering plans, while Coahoma, DeSoto and Leflore counties have taken the lead in issuing road bonds, with construction in progress in the first two.

Southwest Missouri Road Work

Joplin, Mo.—Road work put under construction since the first of the year in the eleven counties of the seventh division of the state totals more than 160 miles, making the largest highway program ever undertaken in this division, according to George L. Clark, division highway engineer. A total of 67 miles has been completed up to this time and additional projects are being completed weekly. Approximately 1000 men are engaged at 58 points in the counties.

\$1,000,000 Texas Bridges

Austin, Tex.—The State Highway Commission opens bids June 22 for the construction of 14 bridge projects, estimated to cost \$1,000,000, including the elimination of two grade crossings in McLennan County. Other projects will be constructed in Caldwell, Fisher, Kimble, Mason, Presidio, Robertson, Smith and Van Zandt, Tarrant, Victoria, Mason (two projects), and Kerr counties.



An 1844-Foot Bridge With a 27-Foot Roadway in Missouri

CONSTRUCTION DEPARTMENT and NEW ENTERPRISES

Covering the initial announcements of new undertakings with additional information about enterprises previously mentioned. The date at the end of an item indicates preliminary facts were given in a previous issue.

Building and Construction Proposed and Contracts Awarded; Manufacturing, Mining, Power, and Land Developments; Public Works; Transportation; Communication; Financial Enterprises; New Business Opportunities Reported in the Sixteen Southern States.

When writing to a new firm or corporation the name of at least one of the incorporators should be placed on the envelope to expedite its handling by the local postoffice. Mail may be delayed unless complete address is given.

The Daily Construction Bulletin of the Manufacturers Record gives each business day advance news published in this weekly review. It is invaluable to those requiring prompt information. Subscription price \$40.00 a year.

Airports, Airplane Plants, Etc.

Ala., Maxwell Field, Montgomery—War Department, Office of Constructing Quartermaster, Maxwell Field, receives bids July 14, for construction of roads, drains, sanitary sewers, water mains. See Want Section—Bids Asked.

Ala., Opelika—Government, F. C. Hingsburg, Ch. Engr., Department of Commerce, reported, approved 10-year lease of runways Auburn-Opelika Airport; plans improvement including grading of field, erecting beacon light, boundary lights, and day markers.

La., Barksdale Field, Shreveport—K. C. Wilson, Slattery Bldg., Shreveport, reported, has contract at \$97,840 for construction of Paint, Oil and Dope House; post exchange (and utilities); photographic laboratory; radio and parachute buildings; Capt. Geo. E. Lamb, Q. M. 6-4

La., Shreveport—R. B. Skannal, Shreveport, reported, low bidder at \$11,183, for construction culvert and filling of Black Bayou at entrance of Barksdale Field. 6-4

Miss., Bay St. Louis—F. C. Hingsburg, Chief Engineer, Airways Division, Department of Commerce, Bureau of Lighthouses, Washington, advises survey of New Orleans-Atlanta Airway, by way of Mobile and Montgomery, Ala., has been completed; airway was surveyed for 50-mi. intermediate fields and beacon lights; in regard to Bay St. Louis, consideration has been given to establishment of a field at this point on airway; at present the Bureau has a field engineer preparing estimates for cost of conditioning this field; at future date proposals and specifications for conditioning of field will be issued for bids; after this field has been conditioned it is planned to install lighting equipment, which will be included in the contract awarded by the Bureau from Washington, for complete installation of lights on the entire airway. 6-4

N. C., Raleigh—City receives bids June 26 for installation of lights at airport, in preparation for proposed inauguration of night air mail service between Richmond and Jacksonville; \$14,000 appropriation available.

Okla., Tulsa—G. J. Bowie, Daniels Bldg., reported, low bidder on general contract for \$75,000 administration building; American Plumbing & Hardware Co., 1325 E. Sixth St., for heating and ventilating; J. L. Heath Plumbing Co., 415 S. Kenosha St., on combined heating, plumbing and ventilating, and Atlas Wiring Co., 1441 E. First St., on wiring.

Tex., Amarillo—Raymond C. Whitlock, Colorado Springs, Col., reported, low bidder at \$35,885 for constructing 17 airway beacons on Albuquerque-Amarillo airway, for Department of Commerce, Washington, D. C. 5-28

Tex., Dryden—Southwest Construction Co., Del Rio, has contract at \$15,000 for airport remodeling for U. S. Government, Grayson V. Heidt, Q. M. Corps, Eight Corps Area, Fort Sam Houston; Henry I. Phelps, Archt., Hicks Bldg., San Antonio. 5-28

Va., Langley Field, Hampton—Constructing Quartermaster, Fort Monroe, receives bids June 24 (change of date from June 15) for hangars.

Bridges, Culverts and Viaducts

Proposed Construction

Fla., Jacksonville—Duval County Engr., Fred A. Stafford, recommended repairs to Jensen Bridge.

Fla., Jacksonville—Duval County Comms. approved plans for rebuilding Arlington River Bridge and authorized advertisement for bids; \$21,287. 6-4

Fla., Tampa—State Legislature granted 3-year extension of franchise to Tampa-Clearwater Bridge Co., Capt. B. T. Davis, Pres., for construction of causeway across Old Tampa Bay from Tampa to Clearwater; project includes causeway from end of Michigan Ave. to Rocky Point, a bridge from Rocky Point three miles into the bay, and five and a half miles of causeway to other shore; \$2,500,000; construction completed on Michigan Ave. to Tampa end of causeway; lighted roadway 24 ft. wide.

Ga., Atlanta—Borough Council authorized Fulton County Comms. to proceed immediately on construction of Broad Street viaduct. 5-21

Kentucky—State Highway Comsn., Frankfort, received following low bids:

Nicholas—Bridge over Scrub Grass Creek, S. P. 43 AB1; conc. sub- and superstructure, North Fork Construction Co., Jackson, \$9,319; steel superstructure, T. R. Mills Kanawha Ave., Charleston, W. Va., \$7,143.

Ky., Gratz—War Dept., Washington, approved plans for State Highway Comsn., Frankfort, for bridge over Ohio River at Gratz.

La., Baton Rouge—State Highway Comsn., N. E. Land, Bridge Engineer, and Missouri Pacific R. R. Co., F. E. Bates, Bridge Engr., St. Louis, Mo., and Louisiana & Arkansas Ry. Co., Shreveport, make new contract in connection with proposed \$8,537,000 rail-highway bridge with two 18-ft. roadways across Mississippi River to north of Baton Rouge; Modjeski, Masters and Chase, Consit. Engrs., Harrisburg, Pa. 4-10

La., Monroe—Louisiana Highway Comsn., Baton Rouge, O. K. Allen, Chmn., receives bids June 30 for (Bond) No. 4604, Ouachita River Bridge at Monroe, on the Monroe-Shreveport Highway, in Ouachita Parish, Route No. 4; one double leaf Strauss Bascule span, 160 ft. center to center trunnions; six 100-ft. deck truss spans all on rein. conc. piers; conc. deck girder approach spans, roadway width 40 ft., and two 6-ft. sidewalks; quantities approximate 2,400,000 lbs. struc. steel, 675,000 lbs. rein. steel, 9150 cu. yds. Class A conc., 1842 cu. yds. Class AA conc., 3660 cu. yds. Class A conc. in sea' course, 52,800 cu. yds. untreated timber piles, 64,000 lin. ft. precast conc. piles.

Md., Annapolis—State Roads Comsn., L. H. Stewart, Sec., Baltimore, replace old wood bridge over South River.

Missouri—State Highway Comsn., T. H. Cutler, Ch. Engr., Jefferson City, receives bids June 26 for bridges. See Roads, Streets and Paving.

Miss., Greenwood—Columbus & Greenville Ry. Co., A. T. Stovall, Pres., Columbus, Miss., ordered 800 tons struc. steel from Virginia Bridge & Iron Co., Roanoke, Va., for bridge over Yazoo River.

Missouri—State Highway Comsn. proposes viaduct to eliminate grade crossing at intersection of Highway No. 55 and Frisco tracks, Scott County; \$40,944.

Mo., Joplin—Joplin Special Road District receives bids June 23 for 90-ft. conc. bridge over Turkey Creek, at Florida Ave.; three 30-ft. spans; plans under way for another bridge over Turkey Creek, on road bordering north line of stockyard.

Okla., Tulsa—City, Mayor George Watkins, plans widening approaches to West Tulsa bridge; \$260,000.

Okla., Tulsa—City rejected bids on \$500,000 21st St. bridge over Arkansas River; readvertise; Victor H. Cochrane, Wright Bldg., and Wood & Witten, Tulsa Trust Bldg., Consit. Engrs.

TEXAS—State Highway Comsn., Gibb Gilchrist, Engr., Austin, receives bids June 22 on bridge projects in following counties:

Caldwell—conc. trestle relief openings over San Marcos River, Highway 3-A; \$130,000; Fisher—conc. trestle over Clear Fork of Brazos River and Alkali Creek, Highway 7, \$30,000;

Kimble—rein. conc. bridge over North Elano River, Highway 27, \$60,000;

Henderson—166.6-ft. steel and conc. overpass across T. & No. O. tracks, Highway No. 40, Fed. Aid Proj. 556-F;

Wharton—160-ft. rein. conc. bridge, Highway No. 3, Fed. Aid Proj. 506-C.

McClellan—steel and conc. overpass, over St. Louis Southwestern tracks, Highway 7, \$42,000; steel and conc. overpass, International-Great Northern tracks, Highway 31, \$47,000;

Mason—conc. and steel bridge over Beaver Creek, Highway 9, \$67,000; rein. conc. bridge across Comanche Creek, Highway 9, \$50,000;

Presidio—rein. conc. structures, Highway 118, \$40,000;

Robertson—12 steel, conc. and treated timber bridges, Highway 43, \$60,000;

Smith and Van Zandt—conc. trestle over Neches River, Highway 60, \$42,000;

Tarrant—rein. conc. and steel bridge over Trinity River, Highway 10, \$220,000;

Victoria—steel, conc. and treated timber bridge, over Coleta Creek, Highway 128, \$60,000;

Kerr—rein. conc. structures, Highway 27, \$57,000. Also for bridges over Bracos and Little Brazos rivers on Highway 21, \$300,000. 6-4

South Carolina—State Highway Comsn., Ben M. Sawyer, Ch. Commr., Columbia, has low bid from E. M. Rickenbacker, Union, for 466-ft. conc. bridge over Long Cane Creek, Route No. 20, McCormick County.

Tex., Beaumont—City, Emmett A. Fletcher, Mayor, and Southern Pacific Railroad, H. M. Lull, V.-P., Houston, negotiating to sign viaduct contract. 6-4

Tex., Channing—Hartley County Comms. authorized 600-ft. bridge spanning Punta De Augua creek, Romero-Channing highway.

Tex., New Braunfels—City, H. F. Fisher, Mayor, plans bridge over Comal River; rigid frame, rein. conc., 164 feet long, 30 ft. wide; conc. roadway; A. C. Moeller, Contr., New Braunfels; J. W. Beretta Engineers, San Antonio, construction and designing engi-

neer; R. S. Jahn, New Braunfels, Consit. Engr.; yet to let paving of approaches and fill contracts.

Tex., San Antonio—City, I. Ewig, City Engr., opens bids June 22 for conc. bridge across San Antonio River, Mulberry Ave.

Contracts Awarded

Louisiana—State Highway Comsn., O. K. Allen, Chmn., Baton Rouge, let contract at \$55,225, to H. Pratt Farnsworth, Canal Bk. Bldg., New Orleans, for bridge between Lafayette and New Iberia.

Tenn., Nashville—Davidson County Highway Comsn. let contract to Bell & Bell, 101 Broad St., at \$10,774, to dismantle bridge over Stone's River near Clover Bottom Beach and reconstruct over White's Creek on Buena Vista Pike.

Tex., Houston—Comms. Court let contract at \$28,103 to Gulf Bithulithic Co., 2820 Polk St., for widening La Porte Road underpass.

Canning and Packing Plants

Tex., Harlingen—Texas Citrus Fruit Growers Exchange, John Shary, Pres., Port Isabel reported, plans erecting \$75,000 packing plant; also contemplates plant at San Carlos.

Clayworking Plants

Ga., McIntyre—Edgar Bros., Inc., closed contract with Georgia Natural Gas Corp., Watts Bldg., Birmingham, Ala., to furnish company's entire fuel requirements with natural gas; expending \$30,000 for laying pipeline and installation of meters and burning equipment for use of natural gas in their 1428 rated horsepower boiler installation; gas to be transported by Southern Natural Gas Corp.

Ga., Milledgeville—Oconee Clay Products Co., closed contract with Georgia Natural Gas Corp., Watts Bldg., Birmingham, Ala., for supply of natural gas for entire fuel requirements of the products company, manufacturer of sewer pipe and other construction material; construction work involving \$15,000 in the laying of necessary line extension, installation of meters and utilization equipment, now in progress by Georgia Natural Gas forces; natural gas under this contract is to be transported by Southern Natural Gas Corp.

W. Va., Chester—Harker Pottery Co., East Liverpool, Ohio, erecting addition dinnerware and specialties plant, 135x200 ft., brick and rein. conc.; conc. floors; wood roof; cost of building \$35,000, will install tunnel kilns, motor equipment, etc., cost \$100,000; Finley Lumber Co., Chester, has contract for building; Harrop Service Corp., Columbus, Ohio, has contract for tunnel kilns. 6-11

Coal Mines and Coke Ovens

Mo., Windsor—Bowen-Nielsen Coal Co., capital \$50,000, incorporated; John Bowen, Windsor; Charles H. Nielsen, Clinton.

W. Va., Huntington—Island Creek Coal Co., R. & P. Bldg., ordered ten steel barges from McClintic-Marshall Co., Pittsburgh, Pa.; each barge 200x26x10 ft.; 1000-ton capacity at 8-ft. draft; place in service out of Huntington on Ohio River.

W. Va., MacDonald—New River Co., awarded contract to Interstate Equipment Corp., 25 Church St., New York, for installation of aerial tramway for disposal of mine refuse at Lockgelly Mine; 2000 ft. long, hurly capacity 60 tons; complete about Aug. 1.

Cotton Compresses and Gins

Ala., Mobile—Anderson Clayton Co., Cotton Exchange Bldg., Houston, Texas, erect cotton compress, 1500x100 ft., brick and corrugated steel, at Alabama State Docks, cost \$150,000.

La., Lake Charles—Lake Charles Compress & Warehouse Co., George F. Kelly, Sec. Treas., will install high density compress in connection with cotton sheds at docks; erect building between sheds No. 2 and No. 3 to house new compress unit; increase capacity by approximately 100,000 bales; company has four warehouses under completion at cost of \$50,000; Knapp & East, Contrs., Kaufman Bldg. 3-26

La., Lake Charles—Lake Charles Compress & Warehouse Co. having plans and specifications completed for construction of four new cotton warehouse compartments and press room building to be erected on property of Harbor and Terminal Commission; warehouse compartments will be 110x160 ft. each; wood and iron clad construction; conc. foundation; compo. roof; press room building will be 200x100 ft., of same type construction as warehouse compartments; cost \$75,000; R. J. Cummins, Engr., Bankers Mortgage Bldg., Houston.

La., New Orleans—Lionel F. Favret, Louisiana Bldg., New Orleans, low bidder for constructing additions to Alamo warehouse of New Orleans Compress Co., Inc., at 5726 Chartres St.; Automatic Sprinkler Corp. of America, Canal Bank Bldg., low bidder on sprinkler system.

Tex., Plano—Aldridge Huguley Gin Co., capital \$24,000, incorporated; L. A. Huguley, C. C. Aldridge.

Drainage, Dredging and Irrigation

Ala., Mobile—U. S. Engineer Office receives bids June 20 for dredging 5,620,000 cu. yds. material in Mobile Bay channel.

Arkansas—Morgan Engineering Co., Goodwyn Institute Bldg., Memphis, Tenn., starting preliminary surveys for floodway between St. Francis Lake and river through Poinsett and Cross counties; probably call bids latter part Aug. or Sept. 6-11

Florida—State Legislature, Tallahassee, approved 1931 Everglades flood control district bill.

Florida—U. S. Engineer Office, Lt. Col. L. V. Frazier, District Engr., Jacksonville, recommended award of contract for 175,000 cu. yds. material from Caloosahatchee-Lake Okeechobee Canal, to DesRochers and Watkins Towing Co., 27 S. E. Sixth St., Miami, Fla., at 14c per cu. yd.

Fla., Fort Pierce—War Dept., Bd. of Engineers, Washington, Lt. Col. J. J. Loving, Resident Member, considering survey for Fort Pierce Harbor project.

Louisiana—U. S. Engineer, New Orleans, has low bid from McWilliams Dredging Co., Canal Bank Bldg., New Orleans, for construction of intracoastal canal between the Atchafalaya at Morgan City and Bayou Gregory.

La., Lake Charles—Lake Charles Dock Board let contract to Lake Arthur Dredging Co. for dredging preparatory to building new dock facilities; 125,000 yds. 6-4

La., New Orleans—U. S. Engineer Office has low bid of 6.6c per cu. yd. placement measurement from McWilliams Dredging Co., New Orleans, La., for combined Atchafalaya-Vermilion section, Louisiana and Texas Intracoastal waterway from Atchafalaya River to Bayou Gregory, La.; 4,988,800 cu. yds.

Texas—U. S. Engineer Office, Galveston, opens bids June 24 for dredging Cedar Bayou channel.

Tex., Corpus Christi—Port Comsn. progressing on plans for ship channel from present turning basin west one mile and a quarter along south shore of Nueces Bay.

Tex., Edinburg—Hidalgo County Irrigation Dist. No. 1, A. Tamm, Engr., Harlingen, resume construction on \$1,500,000 irrigation system; Western Gunite Corp., Arthur G. King, Pres., accept \$300,000 bonds for further construction work.

Tex., Galveston—U. S. Engineer Office has low bid of 4.64c per cu. yd. from Standard Dredging Co., 323 Guaranty Bldg., Galveston, Tex., and 233 Broadway, New York, for dredging 8,497,000 cu. yd. material, Sabine River-Galveston Bay section, of Louisiana & Texas Intracoastal Waterway.

Texas—U. S. Engineer Office, Trust Company Bldg., Galveston, Tex., opens bids June 26 for maintenance dredging in Intracoastal Canal between Galveston, Tex., and lower Matagorda Bay, in channel between Pass Cavallo and Aransas Pass, Texas, in channel across bar at mouth of Colorado River and in channel between Pass Cavallo and Port Lavaca.

Electric Light and Power

Electric light and power work in connection with many LAND DEVELOPMENT operations involves the expenditure of large sums of money. See that classification for details.

Fla., Fort Myers—City, reported, votes soon on 30-yr. franchise for Florida Power & Light Co., Miami.

La., New Iberia—City engaged Henry A. Mentz & Co., Hammond, La., Engrs., to prepare plans and specifications for white way on Main St.; soon call for bids.

Md., Elkton—Public Service Comsn., Baltimore, authorized merger of Conowingo Electric Light and Power Co. and Northern Maryland Power Co.; serving large portion of Harford County; continue under name of Conowingo Electric Co., headquarters Elkton; also authorized Southern Pennsylvania Power Co. to acquire 1200 shares of capital stock

of Conowingo Electric Light and Power Co.; upon completion of merger the Susquehanna Utilities Co. is authorized to acquire the 21,143 shares of no par value stock of the Conowingo company. 6-4

Md., St. Michaels—Farmer & Comages, Easton, have contract for electric generating plant for Eastern Shore Public Service Co.; Salisbury; Henry Sterling, Engr., care owners.

Miss., Canton—Canton Electric Light & Water Works let contract to H. P. Watts, 113 Semmes St., for electric power and water plant; daily output 3000 K. W. H. and 300,000 gal.; 60x100 ft.; mill type; conc. floors; galv. corrugated roof; cost of building \$10,000, of equipment \$20,000; will install 200 h. p. Sterling boiler, switchboard, and generator; B. & W. Co. through A. M. Lockett & Co., S. & C. Bldg., New Orleans, Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa., and General Electric Co., Schenectady, N. Y., equipment contractors. 5-21

Miss., Holly Springs—I. P. Morris-De La Vergne Co., Richmond and Norris St., Philadelphia, Pa., reported, has contract for 300 h. p., De La Vergne Diesel engine for power plant. 5-14

Tennessee—Virginia State Corporation Comsn., Richmond, Va., set July 9 as date for hearing on application of Holston River Power Co., Johnson City, Tenn., J. R. Paull, 50 Wall St., New York, for permission to overflow lands along South fork of Holston River in Washington County, Virginia, in connection with construction of hydro-electric development. 10-10-29

Texas—West Texas Utilities Co., Abilene, extending electric, gas and water service; construction work planned in San Angelo and San Angelo operating district includes installing 2000 ft. water main, single phase 4160 volt rural extension line and a 3-phase, 2300 volt bank of transformers and primary metering equipment will be installed to serve a new ice plant; construct 12 kv. line and a 3-phase 2300 volt line in the South Vernon oil field to serve power and lighting demands of the Magnolia Pipe Line Co.; a 440 volt 3-phase line, near Iraan, will serve central power equipment on Corvett Oil Co. lease; electric extensions will be made at Rule, a 2300 volt single-phase primary line will serve new customers; at Robert Lee a similar line will connect new rural homes; at Baird parkway cable for street lighting system will be installed; distribution system will be improved or extended at Vernon, Medicine Mound, Jayton and San Angelo, and two-inch gas mains will be built to the Breezedale Addition in Cisco. 1-29

Texas—Emery, Peck & Rockwood Development Co., 818 Scarborough Bldg., Austin, let contract through Austin Bros., Dallas, to Colorado Fuel & Iron Co., Pueblo, Col., for 1800 tons conc. bars, for Hamilton hydro-electric plant being constructed on Colorado River; Fegles Construction Co., Ltd., Contr., Minneapolis, Minn.; Fargo Engineering Co., Consit. Engrs., 120 W. Michigan Ave., Jackson, Mich. 6-4

Tex., Beaumont—Gulf States Utilities Co., 362 Liberty St., will have hearing July 22 before War Department, Maj. Milo P. Fox, United States Dist. Engr., Galveston, on application, to construct power line across Neches River at Weiss Bluff, 24 miles upstream from Beaumont. 6-4

Tex., Randolph Field—Constructing Quartermaster, Capt. A. W. Parker, received bids July 12 to furnish labor and material of installation of approximately 5,685 ft. varnished cambric, lead covered cable; also meter, meter box, potheads, fuse cut-outs, current and potential transformers with all appurtenances, and removal of old 5,000-volt, three-conductor No. 4 lead covered cable.

Tex., Seguin—Sumner-Sollitt Co., National Bank of Commerce Bldg., San Antonio, general contractor for Texas Hydro Electric Corp.'s development advises following contracts let for plant TP-4 on the Guadalupe River: Structural steel gates to Virginia Bridge & Iron Co., Roanoke, Va.; power house steel to Alamo Iron Works, 130 Santa Clara St., San Antonio; creosoted timbers to International Creosoting & Const. Co., 2205½ B St., Galveston; reinforcing steel to Texas Steel Co., sand and gravel and lumber to Federal Supply Co., 326 Nolan St., San Antonio. 6-4

Fertilizer Plants

Fla., Hollywood—Green Cross Products Co., plans erecting fertilizer plant on eight-acre site, N. 20th Ave.

Ky., Louisville—Royal Chemical Co., capital \$200,000, incorporated; Walter Crady, Equitable L. & C. Bldg.

Flour, Feed and Meal Mills

N. C., Henderson—Acme Feed and Milling Co., capital \$50,000, incorporated; C. V. Singleton, Irvine B. Watkins.

Garages and Filling Stations

D. C., Washington—H. R. Blagg Co., 1229 E. Third St., Dayton, Ohio, has contract for enlargement of Capitol grounds, terrace fountain and garage; David Lynn, Archt. of the Capitol. 6-4

Fla., Bunnell—Bunnell Hardware Co., Ed Johnson, Pres., reported has contract garage building for Kudrna Chevrolet Co.; 40x40 ft.; frame sheeted with iron.

Fla., Jacksonville—Stanley Motors Company, Inc., 315 W. Monroe St., let contract to George D. Auchter Co., 600 E. Fourth St., for erection of \$20,000 building, Laura and State Sts.; 1-story; 105x109 ft.; building will contain service department, show room, etc.; A. C. Hopkins, Archt., 1339 Ingleside St.

Fla., Plant City—C. B. Nichols Co., chartered; E. B. Allen, C. B. Nichols.

Fla., Tampa—Orin E. Thompson and Tom Scolaro, Jr., erect filling station and store building on 22nd St.

Fla., Winter Garden—Griffin Chevrolet Co., Inc., chartered; W. M. Griffin, A. M. Weaver.

Ga., Atlanta—Universal Garage Co., A. G. Roach, Pres., reported, leased site at 1104 Peachtree St.; erect garage; 1-story; contain 15,000 sq. ft. floor space; modern construction, fireproof.

Ga., Atlanta—Harrison Jones, 310 North Ave., N. W., erect \$25,000 garage, 1104 Peachtree St., N. W., to be leased to the Universal Garage; 1 story, 70x200 ft., fireproof, rein. conc., brick and tile walls, struc. steel, steel sash, built-up roof; estimators include: Brazell, Miller & Newbanks, Norris Bldg.; A. K. Adams & Co., 542 Plum St., N. W.; W. P. Francis, 201 Luckie St., N. W.; C. R. Justi, 101 Marietta St., N. W.; Yost Construction Co., Inc., Candler Bldg.; Ed Van Winkle, Jr.

Ky., Barbourville—Stewart Chevrolet Co., Co., incorporated; W. T. Stewart, Braxton Stewart.

Ky., Elizabethtown—Douglas Motor Co., capital \$15,000, incorporated; A. H. Douglas, E. A. Thorne.

Md., Baltimore—Chesterfield Co., 11 E. Fayette St., reported, has plans by Geo. Wessel, 601 W. 40th St., for 25 garages, 2601-49 Chesterfield Ave.; 1-story, brick.

Md., Baltimore—Atlantic Refining Co., Keyser Bldg., Baltimore and Philadelphia, Pa., construct filling station Monroe & Pratt Sts.; C. J. Cutting, Archt., care owners.

Md., Baltimore—H. D. Bennett, 2114 Alledale Rd., reported, take bids about June 22 for filling station, 542 Carrollton Ave.; 1-story, brick.

Md., Baltimore—Atlantic Refining Co., Keyser Bldg., Baltimore, and Philadelphia, Pa.; erect filling station 34th and Keswick Rd., 1-story, brick; C. J. Cutting, Archt., care of owners.

Mo., Kansas City—Standard Oil Co., 5301 E. Ninth St., construct service and filling station, Linwood Blvd. and Robert Gillham Rd.

Mo., Joplin—W. M. Erwin, Oakland St., establishing tire and motor car service plant, Eighth and Main Sts.; has building.

N. C., Greensboro—Yellow Taxi Co., incorporated; W. S. Wyrick, 1209 Gregory St.

N. C., Winston-Salem—Piedmont Motor Corp., capital \$100,000, incorporated; J. J. Allen, 1027 S. Main St.

S. C., Greenville—Potter and Shackelford, Inc., Allen Bldg., have contract for super service station and auto supply building for Richard P. Watson, James St., 1-story; common and face brick; limestone trim; conc. and tile floors; frame roof; cost \$35,000; foundations complete. 5-28

Tex., Corpus Christi—Federal Petroleum Co., Robstown Rd., erect filling station Staples & Chamberlin Sts.

Tex., Houston—Ernest M. Mettke & Co., incorporated; Ernest M. Mettke, 2655 Oakdale St.

Tex., Sherman—Cullum Motor Parts, Inc., chartered; George W. Stephenson, J. E. Cullum.

Va., Norfolk—Carburetor Specialty Co., Inc., capital \$25,000, chartered; J. B. Loughridge, Virginia Beach.

Va., Petersburg—Master Chevrolet Sales, Inc., capital \$50,000, chartered; Phillip H. Burcher, First Natl. Bank Bldg., Newport News.

Va., Richmond—Horton Motor Lines, Inc., chartered; H. D. Horton, 430 S. Tryon St., Charlotte, N. C.

Gas and Oil Enterprises

Ky., Burnside—The Kengreen Gas Utilities Co., 2130 N. Hall St., St. Louis, Mo., acquired gas franchise.

Ky., Pikeville—Warfield Natural Gas Co., reported construct pumping station and gasoline plant in Big Sandy field, at Boldman in Pike County; company is a subsidiary of United Fuel Gas Company, Charleston, W. Va.; has under construction 20-in. gasoline pipe line from Pike County to the Atlantic Seaboard; will also erect a number of employees dwellings.

La., Baton Rouge—Ethyl Gasoline Corp., 25 Broadway, New York, purchased site, Fuqua St. and Jackson Rd.; erect \$35,000 gasoline testing laboratory; brick, 50x120 ft.; install equipment for determining distillation characteristics; sulphur, gum and lead content; knocking tendencies.

Md., Hagerstown—Central Public Service Corp., authorized by Maryland Service Comsn. to acquire 90,000 no-par shares of Central Gas and Electric Co., supplying gas in Hagerstown.

Miss., Clinton—F. Shields, Jackson, has contract for pipe line from Jackson gas field to Clinton with distributing system for about 200 homes; cost \$50,000. 6-11

Miss., Meridian—Mississippi Service Co., J. E. Carey, plans expansion of natural gas service; will run four-inch high-pressure gas line to serve a Meridian industry with natural gas; carry large volume of natural gas to Gulf State Creosoting Co.; line will run through Oakland Heights; construction to begin at once; cost \$20,000.

Mo., Boonville—Missouri Power & Light Co., 231 S. LaSalle St., Chicago, Ill., reported, reconstruct present manufactured gas distribution system in Boonville; has franchise. 4-9

N. C., Smithfield—City renewed franchise of D. L. Thompson, Cincinnati, Ohio; plans erection of gas plant; cost \$75,000; furnish butane gas; ship to Smithfield in tank cars in liquid form; reported, plans erection gas plants in North and South Carolina, Georgia and Florida.

Oklahoma—Winchester Oil and Gas Co., subsidiary of Western Light and Power Company of Salina, Kans., reported construct natural gas line to serve Dacoma, Carmen and Aline; gas to be secured from Medicine Lodge, Kans., gas field.

Tenn., Covington—Republic Steel Corp., Youngstown, Ohio, has contract for 6500 tons of steel pipe for new lines for Memphis Natural Gas Co.; Ford, Bacon & Davis Construction Co., Inc., 39 Broadway, New York, Contr. 6-4

Tex., Austin—Ebony Oil Co., capital \$20,000, incorporated; C. W. Voyles, 2836 San Gabriel St.

Tex., Corpus Christi—Pure Oil Distributing Co., erecting bulk distribution plant, including five 10,000-gal. tanks for gasoline storage, sheet metal and wood frame warehouse and filling station.

Tex., Dallas—Western Royalty Corp., incorporated; H. R. Altick, Jr., 6016 Gaston St.

Tex., Dallas—Helvir Oil Co., incorporated; R. M. Waskom, 5547 Merrimac St.

Tex., Dallas—Panola Oil and Gas Co., capital \$20,000, incorporated; J. R. Shoupe, 3111 Main St.

Tex., Fort Worth—Arrow Oil & Gas Co., incorporated; F. H. Murphy, 2525 Hemphill St.

Tex., Fort Worth—Sinclair Oil Co., Sinclair Bldg., Tulsa, Okla., reported rebuild old Pierce Oil Co.'s refinery north of Fort Worth at cost of \$2,000,000; will become central plant of company; work to begin about July 1; will be served by pipe line tying up in Parker County with Prairie Oil and Gas Co.'s line running to Mexico. 4-23

Tex., Houston—Campbell Petroleum Corp., incorporated; E. A. Stone, West Bldg.

Tex., Houston—Sinclair-Texas Pipe Line Co., Esperson Bldg., reported, let contract to Subway Engineering Co., 115 S. Dearborn St., Chicago, Ill., at \$125,000 for tunnel under Houston Ship Canal.

Tex., Humble—Humble Pipeline Co., Humble Bldg., Houston, construct oil pipeline from Todd City to Trinity River; Oklahoma Contracting Corp., Allen Bldg., Dallas, Contrs.

Tex., Gladewater—Gregg Oil Co., incorporated; H. Hunter, F. M. Parry.

Tex., Joe Sanger and associates, San Angelo, reported establish refinery at Mertzon, San Angelo or Ballinger.

Tex., Kilgore—Cal-Tex Corp., capital \$100,000, incorporated; A. C. Davis, J. J. Greve.

Tex., Liberty—Atlantic Oil Producing Co., reported, completed right of way through north part Liberty County for construction of pipe line from West Texas.

Tex., Longview—Foster, Inc., capital \$50,000, chartered; E. L. Foster, L. A. Norris.

Tex., Pampa—Chicken Creek Oil Co., capital \$100,000, incorporated; W. P. Ledrick, Roy L. Wakeman.

Tex., San Antonio—Convent Street Co., capital \$31,000, incorporated; J. G. Hardie, 127 E. Lynwood St.

Texas—Sun Oil Co., 1608 Walnut St., Philadelphia, Pa., has under construction pipe line from East Texas field to point on Neches River, south of Beaumont, 10 1/4-in. O. D. line, about 200 miles long of this size with about 60 mi. additional gathering lines of various sizes; pipe purchased through the Norvell-Wilder Co., Beaumont, and is Jones & Laughlin pipe; total tonnage involved is between 18,000 and 19,000 tons; five stations on the line equipped with electrically driven centrifugal pumps, capacity of the line about 45,000 bbls. per day; is being built under direct supervision of R. W. Pack, company's Vice-President, with W. C. Kinsolving, General Superintendent of line; engineering work by engineers of Sun Pipe Line Co.; contractors in charge of this work are Mitchell-Stewart Construction Co., Dallas, and Schmitt Construction Co., Saukville, Wisc. 6-4

Texas—Shamrock Oil and Gas Co., Amarillo Bldg., Amarillo, reported, construct pipe line, from east Texas to the Coast; will run from Willow Springs to Houston terminal with gathering lines in all three areas of East Texas field; trunk line about 225 miles long; constructed of 12 1/2 in. pipe; line will be built by Fownes & Orr; Capt. J. F. Lucey, Magnolia Bldg., Dallas, also reported interested; terminal connections arranged for in Houston.

Tex., Tyler—Lone Pine Oil Co., capital \$50,000, incorporated; J. L. Graham, Cyril Nelson.

Tex., Tyler—Maverick Oil Co., capital \$40,000, chartered; E. L. Taylor, H. B. Thomas.

Ice and Cold-Storage Plants

Ky., Greenup—City Ice Co., Raceland, reported acquired Crystal Ice Co.'s plant; will remove equipment to Raceland; install in City Ice Co.'s plant.

Miss., Wiggins—Peter Willomoes, acquired local ice plant; will operate.

Mo., Kansas City—Federal Ice Co., 1121 E. 33rd St., incorporated; James A. Campbell, Leone Richart.

N. C., Winston-Salem—Forsyth Poultry Assn. and Southern Rabbit Marketing Assn. plan constructing cold storage plant.

Tex., Refugio—Sumner-Sollitt Co., 609 National Bank of Commerce Bldg., San Antonio, reported, has contract for ice station for Central Power & Light Co.; 1-story, 28x14 ft. steel and cork roof construction; Jno. M. Marriott, 503 Frost National Bank Bldg., Archt. 6-11

Iron and Steel Plants

Ala., Fairfield—Tennessee Coal, Iron and Railroad Co., soon begin installing machinery in universal plate mill, part of \$8,000,000 enlargement and improvement program inaugurated last year, machinery to be operated by seventeen 50 to 100-h. p. electric motors; Hardie-Tynes Manufacturing Co., Bldrs., 800 N. 28th St., Birmingham; McIntosh-Hemphill Co., Pittsburgh, Pa., Designers. 3-26

W. Va., Weirton—National Steel Corp., Pittsburgh, Pa., started work on reconstruction of strip mill; convert to roll 7000 to 8000 tons of small size merchant bars, small angles and shapes, monthly, in addition to capacity for rolling 1-in. strip.

Land Development

Ark., Little Rock—Tedford Realty Co., 418 W. Seventh St., capital, \$37,000, incorporated; W. L. Tedford, J. A. Comer.

Ark., Yellville—J. E. Chase and Noah Boorher, Colorado, Tex., develop tourist camp; install modern improvements.

Florida—Legislature approved bill setting aside 325,000 acres for Everglades National Park; Doyle Carlton, Gov., Tallahassee.

Fla., Hialeah—Miami Jockey Club, Joseph E. Widener, Palm Beach, Fla., and Philadelphia, make \$1,000,000 improvements to Hialeah race track; Smith & Riddle, Inc., Suprvs. Engrs., 210 Royal Palm Way, Palm Beach; Island Landscape Co., Inc., 234 Sunrise Ave., Suprvs. landscape contr.; L. W. Geisler, Archt., 19 Via Parigi, Palm Beach; plans include 24 stables to provide quarters for 1200 to 1400 horses; bids from Dade County contractors; landscaping involve \$200,000 expenditure.

Fla., Homestead—Westol Co., incorporated; E. P. Roberts, W. R. Nelson.

Fla., Inverness—J. A. Fleming acquired 13 acre citrus grove on Wildwood Road; plans development.

Fla., Jacksonville—American Union Groves, Inc., chartered; W. D. Jobe, Fla. Theatre Bldg.

Fla., Miami—Emmons & Henry, Inc., incorporated; A. W. Emmons, 315 Navarre Ave., Coral Gables.

Fla., Miami—William H. Gold Co., incorporated; W. H. Gold, 1219 Lisbon St., Coral Gables.

Fla., Miami—Pauline Burdine, Inc., chartered; P. Burdine, 1750 Biscayne Blvd.

Fla., Winter Park—Alpine Grove Co., Inc., chartered; F. W. Shepherd, H. Strong.

Fla., Winter Haven—Ariana Grove Corp., incorporated; M. R. Driver, W. D. Gray.

Fla., West Palm Beach—Nance Realty Co., Inc., chartered; L. C. Nance, H. M. Wengrow. Ga., Valdosta—See Water Works.

La., Lafayette—Southwestern Louisiana Institute, Dr. E. L. Stevens, Pres., acquired 30 acres adjoining the institute; develop for nursery and gardens.

Md., Baltimore—Stoncroft Homes Co., incorporated; Patrick J. Burns, 824 E. Preston St.

Miss., Gulfport—Great Southern Land Co., increased capital from \$250,000 to \$500,000; Mrs. Jones Stewart, Pres.; W. T. Stewart, Sec.

Miss., Pass Christian—M. Martin Kallman, Ind. Engr., New York, reported acquired Pine Hills Hotel, golf course, country club and holdings, embracing 2300 acres; convert into health resort and recreation center, construct bathing beach one and a half miles long along Bay of St. Louis; construct airport.

Mo., Kansas City—Windsor Realty & Investment Co., incorporated; William C. Lucas, 312 Keith & Perry Bldg.

Mo., University City, St. Louis—Engel Lewis Realty Co., 908 Paul Brown Bldg., incorporated; Cecil B. Engel, William D. Lewis

S. C., Anderson—City, Gramme T. McGregor, Mayor, plans developing 7½-acre addition to Silver Brook Cemetery.

Tex., Houston—Brookside Burial Park, Inc.; Frank Lee Berry, First Natl. Bank Bldg.

Tex., Laredo—H. A. McFarland has option for leasing 364-acre municipal airport site for \$205,000 development of automobile speedway and airport; construction to begin by July 1; plans by Jack W. Beretta, Natl. Bank of Commerce Bldg., San Antonio, include permanent grandstand to seat over 5000; two and a half mile semi-oval speedway will be macadamized; six hangars, offices for both American and Mexican customs, waiting rooms, gasoline and oil stations, etc.; six permanent runways to converge directly in front of grandstand.

Va., Franklin—Douglas Corp., capital \$50,000, incorporated; J. M. Camp.

Va., Lynchburg—James L. Martin, Inc., chartered; James L. Martin, Peoples Natl. Bank Bldg.

Va., Richmond—Ever Realty Co., Inc., capital \$15,000, chartered; F. Berkeley Robins, 2235 Monument Ave.

Va., Roanoke—Hedge Lawn Nurseries, Inc., capital \$50,000, chartered; J. W. Wharton, Roanoke, R. F. D.

Lumber Enterprises

Ark., Hope—R. G. McRae, reported acquired sawmill, steam dry kiln, machinery, and 21-acre mill site of Hope Lumber Co.

Fla., Coral Gables—Renuart Lumber Yards, Inc., 226 Alhambra Circle, reported, have taken over and consolidated Coral Gables Lumber and Supply Co. and Miami Shores Lumber and Supply Co.

Fla., Indiantown—Long Leaf Lumber Co. are having plans drawn by Thrall & Shea, 314 Pajo St., Lake Charles, La., for rebuilding burned sawmill; capacity for cutting 75,000 ft. long leaf yellow pine timber daily; soon begin construction work. 6-4

Fla., Pensacola—Allen Turpentine Co., chartered; H. A. Lorton, 816 E. Blount St.

Fla., Pensacola—Weis-Patterson Lumber Co., Inc., G. V. Patterson, Sec. and Treas., immediately rebuild burned planing mill; main building, 100x150 ft., timber construction, corrugated galvanized iron roof and sides; construction under company supervision.

Tex., Dallas—Wood Treating Corp., organized by B. C. Varner, 3716 Harvard St., and J. M. Reichenstein, plans constructing treating plant using Bruce preservative; establish treating plants in Fort Worth, Dallas, Waco, Tyler, etc.

Mining

Mo., St. Joseph—St. Joseph Quarries Co., E. H. Lawhon, Pres., 505 Main St., developing quarry for crushed rock, installing \$50,000 machinery from the Savannah quarry; expend \$20,000 additional; plant to have capacity of 12 carloads of 50 tons each every 10 hours. 5-21

North Carolina—J. C. Ricker, reported, plans kaolin plant on Wiseman property, Avery County, also reported purchased extensive deposits of cyanite in Lancy county.

N. C., Hickory—W. B. Hart, Box 775, opened crushed stone quarry near Hickory; expects to increase daily output to 150 cu. yds.

N. C., Spruce Pine—Henry Bailey, Penland, and H. E. Deneen, Spruce Pine, plan erection of kaolin refining plant near Bear Creek; develop large deposit of china clay.

N. C., Spruce Pine—Bon Ami Co., W. S. Robinson, Gen. Supt. of factory operations, 17 Battery Place, New York, reported, arranging with J. C. Pitman to develop extensive mines of mica and feldspar on Chalk Mountain, at head of Crabtree Creek.

Tenn., Columbia—Victor Chemical Works, 343 S. Dearborn St., Chicago, Ill., acquired 2500 acres mineral lands in Maury County owned by Globe Phosphate Co.; property is located in Scott's Mill Valley on Mt. Pleasant Southern Railway and extends from Porter's Chapel to Southport; plans for development of properties not determined.

Miscellaneous Construction

D. C., Washington—Office of Public Buildings and Parks receives bids June 19 for constructing rein. conc. tunnel extending from Land office building at Seventh St. to west side of Judiciary Square.

Florida—U. S. Engineer Office, Jacksonville, let contract to H. C. Nutting Co., Tampa, for 10,240 lin. ft. core drilling at Lake Okeechobee.

Louisiana—U. S. Engineer Office, Foot Prytania St., New Orleans, receive bids July 10 for 900,000 cu. yds. new earthwork, R351, Australia Point Levee, in Atchafalaya Front Levee Dist.; and for 230,000 cu. yds. river-side enlargement, S 92, Poland Levee, and for 340,000 cu. yd. new earthwork, S 83 Cologne Bend Levee, both South Bank Red River.

La., New Orleans—Bd. of Commrs., Port of New Orleans, J. M. Fush, Office Assistant, received low bid of \$61,607 from J. A. Petty and Sons, Audubon Bldg., for office building and city delivery shed at Bienville Street Wharf; conc., foundations, steel frame, steel rolling doors, steam heat, sprinklers; corrugated delivery shed, 50x400 ft., one and two stories; 20x240-ft. extension at right angles for office building.

La., Shreveport—War Dept., Capt. Geo. E. Lamb, Constructing Q. M., has low bid for constructing 5-ton natural draft incinerator at Barksdale Field, from Ashton Glassell Co., 260 Cadillac St. 5-14

Mississippi—U. S. District Engr., T. B. Larkin, Vicksburg, Miss., received following bids on approximately 13,388,000 cu. yds. levee work on east and west banks of Mississippi River in Mississippi, Arkansas and Louisiana; in following paragraph the name of project is followed by item number, estimated cubic yardage, name of contractor and price bid per cu. yd.: Ashbrook to Tarpley Enlargement, riverside enlargement, W. E. Callahan Construction Co., Arcade Bldg., St. Louis, Mo., 18.8c; Above Greenville Setback—item 477-L-A, 1,147,000, T. W. Roach, North Memphis Savings Bank, Memphis, Tenn., 18c; item 477-L-B, 1,120,000, T. W. Roach, Memphis, Tenn., 17.45c; item 477-L-C, 1,137,300, T. W. Roach, 19c; item 477-L-D, T. W. Roach, 17.34c; Greenville Front—item 480-L, 333,000, Pearson-Wright Co., Charlotte, N. C., 18.50c; Refuge Setback—item 9, 318,400, R. T. Clark Co. and Delta Construction Co., Memphis, Tenn., 14.25c; Deerfield Setback—item 11-A, 713,500, T. W. Roach, Memphis, Tenn., 15.95c; item 11-B, 663,500, R. E. Cotton Co., Newellton, La., 17.07c; item 11-C, 651,300, R. E. Cotton, 19.04c; blanket bid, Deerfield Setback, Stephens Brothers, and Miller-Hutchinson Co., New Orleans, 18.30c; Deerfield to Wayside—item 12, 513,800, R. E. Cotton, 17.60c; Vaulcuse Enlargement—item 488-R-A, 134,000, Louis Chambers Construction Co., New Orleans, 12.23c; item 488-R-B, 687,000, Horton Price Construction Co., El Dorado, Ark., 12.50c; Vaulcuse to Sunnyside Setback—item 490-R-A, 543,900, Louis Chambers Construction Co., 12.33c; item 490-R-B, 545,600, Louis Chambers Construction Co., 11.88c; blanket bid on Vaulcuse to Sunnyside Setback, Louis Chambers, New Orleans, La., 11.99c; Sunnyside Setback—item 493-R-B, 582,900, Louis Chambers, 13.84c; Sunnyside to Seven Oaks—item 497-R-A, item 493-R-A, 582,900, R. E. Cotton, 13.20c; blanket bid on Sunnyside Setback, E. F. Powers Construction Co., 12.09c; Sunnyside to Seven Oaks—item 497-R-A, 773,500, Horton Price Co., 13.45c; item 497-R-B, 926,800, Horton Price Co., 13.75c; blanket bid on Sunnyside to Seven Oaks, Horton Price Co., 13.75c; Reid-Bedford—item 609-R, 556,500, J. J. McCaughey Construction Co., 205 W. Wacker Drive, Chicago, 19c. 5-21

Missouri—U. S. Engineer Office, Major W. A. Snow, Dist. Engr., St. Louis, received low bid of \$66,100 from Woods Brothers Construction Co., Lincoln, Nebr., for 4000 to 7000 lin. ft. piling dikes in Missouri at Bonhomme Ben. Mo. (right bank) Mile 39-42; from C. W. Hunter Co., 177 S. Front St., Memphis, Tenn., at \$28,700, for 1000 to 220 lin. ft. piling dikes in Missouri River, Bonhomme Bend (left bank), Mile 38-40.

Md., Baltimore—Bd. of Awards, Mayor Howard W. Jackson, Pres., receives bids June 24 for repairing sunken floor area in Pier 9, McComas Street Ocean Terminal; J. E. Greiner Co., Const. Engrs., 1201 St. Paul St.; James H. Preston, Chmn., Port Development Comsn. 5-28

Mo., Caruthersville—U. S. Engineers move entire revetment plant and plant personnel from Vicksburg district to Memphis district at Caruthersville.

Mo., Kansas City—Brosnahan Brothers Construction Co., 602 City Bank Bldg., started work on rehabilitation of Main St. river wharf; 180x50-ft. platform; rebuild wharf house; \$53,000.

S. C., Charleston—U. S. Engineer Office, Customs House, let contract to Carpenter & Petrie, Citizens Bank Bldg., Norfolk, Va., at \$50,346, for repairing south stone pier, U. S. Engineer wharf. 6-4

Tenn., Memphis—Marquette Cement Manufacturing Co., 140 S. Dearborn St., Chicago, John A. Denie's Sons Co., Memphis representative, low bidder at \$130 per barrel for 210,000 barrels of cement for use in conc. revetment work in Memphis engineer district.

Texas—Government engineering commission, W. E. Anderson, San Benito, member, making surveys of Rio Grande River for flood control.

Tex., Houston—City received low bid of \$77,990 from J. S. Harrison Construction Co., 514 Liberty Natl. Bank Bldg., Waco, for wharf No. 10; soon ask bids for construction of shed; low bid from Russ Mitchell, Inc., Petroleum Bldg., Houston, at \$6563 for road leading to west end of wharf. 5-14

Tex., Port Arthur—City Comsn. approved ordinance providing for issuance of \$300,000 bonds to complete and maintain seawall; first seal two-mile gap north of city; later construct scenic drive along canal, \$80,000; W. J. Gray, City Engr. 4-2

Tex., Port Arthur—War Dept., Major Milo P. Fox, U. S. District Engr., Galveston, received low bid from D. M. Pleton Co., Adams Bldg., to construct 700-ft. steel revetment along east canal bank.

W. Va., Huntington—U. S. Engineer let contract to Virginia Machinery & Well Co., Inc., 1319 E. Main St., Richmond, Va., for 3040 ft. wrought iron pipe, for Lock 26.

W. Va., Huntington—U. S. Engineer Office, Major Fred W. Herman, Huntington district, completed surveys for ice piers to cost from \$80,000 to \$100,000; 2000 ft. long.

Miscellaneous Enterprises

Ala., Andalusia—Southern Cotton Oil Co., J. E. Maddox, Mgr., constructing peanut hulling plant as additional unit; main building 3-story high with additional 1-story warehouse; floor space of 12,200 sq. ft.; construct spur track.

Ala., Birmingham—Reed Brothers Stone Co., 3000 Eighth Ave., N., enlarging plant; installing new machinery.

Ala., Birmingham—Stockholders of Bankers Credit Life Insurance Co. approved proposed merger with Old Republic Life Insurance Co., Chicago; new organization to operate as Old Republic Credit Life Insurance Co., an Illinois corporation, with ledger assets of approximately \$1,000,000 and with insurance in force totaling \$15,000; Ben I. Rapport, to be president and general manager; Modie J. Spiegel, chairman of board.

Ark., Ft. Smith—Radiant Glass Co., Box 447, J. J. Parks, Pres., rebuilding burned plant sheet iron construction, conc. floors, sheet iron roof; materials purchased; work by company's forces.

Ark., Little Rock—Pittsburgh Plate Glass Co., Pittsburgh, Pa., reported, acquired Abeles Glass Co., Scott and Bridge Sts.

Ark., McGehee—City defeated bond issue for fire equipment. 4-22

D. C., Washington—Trustees of the John R. McLean Estate reached agreement for sale of Washington Post to David Lawrence, publisher of the United States Daily; price \$3,000,000; subject to court approval.

Fla., Clearwater—Automatic Citrus Juice Extractor Co., incorporated; N. M. Faulds, Clearwater; John A. Snively, Winter Haven; manufacture juice extractor patented by N. M. Faulds.

Fla., Coral Gables—Bostwick Construction & Building Repair Co., incorporated; F. G. White, Ingraham Bldg., Miami.

Fla., Fort Myers—Consolidation reported of Ft. Myers Press and Tropical News; will issue combined newspaper from office of the Press; Carl Hanton, Gen. Mgr.

Fla., Hialeah—Miami Jockey Club, Inc., Joseph H. Widener, Pres., make \$1,000,000 improvements to Hialeah race track; Smith & Riddle, Suprv. Engrs., West Palm Beach; Island Landscape Co., Inc., Suprv. landscape contr.; L. W. Geisler, Archt., Palm Beach; plans include 24 stables to provide quarters for 1200 to 1400 horses; landscaping involve \$200,000 expenditure; bids from Dade County contractors.

Fla., Miami—Economy Cash & Carry Cleaners, Inc., S. S. Helman, Sec. and Treas., 1844 W. Flagler St., immediately award contract for laundry, 1840-42-44 W. Flagler St.; conc. block, 1 story, 50x100, cement found., cement floors, comp. built-up hip roof; metal doors, steel sash and trim, ventilators, wire glass; \$5,000; equipment to cost \$25,000.

Fla., Sebring—Buckeye Building Corp., chartered; F. A. Sebring, F. Heacock.

Fla., Winter Haven—W. B. Craig of Seymour-Craig Co., superintending construction citrus laboratory, Third St. & Ave. E. S. W., for U. S. Department of Agriculture; H. A. Tilden, Archt., Winter Haven. 6-4

Ga., Cedartown—Wayside Laundry, Chas. Adamson, Jr., reported soon let contract for laundry building; 1 story; 65x100 ft.; conc. foundation; brick walls; compo. roofing.

Ga., Macon—Macon Dairies, incorporated; N. P. Reddy and J. P. McGoldrick, 1 Rose Place; operate existing plant of Sancken Dairy Interests.

Ga., Mount Airy—Fort Orchard Co., Frank Hartley Anderson, Engr., 2112 11th Court, S. Birmingham, Ala., advises regarding erection of peach freezing plant that announcement was premature; next year may build one, or half a dozen plants. 6-4

Ky., Catlettsburg—Catlettsburg Milk Co., chartered; John M. Elswick, George Fannin.

Ky., Corbin—Industrial Engineering Co., Lock Box 272, Lexington, Camella Lowry, Secy., is having industrial survey made for the purpose of locating a number of industries including brush and broom manufacturing plant and knitting mill.

Ky., Livingston—Industrial Engineering Co., Lock Box 272, Lexington, Ky., advises have completed an industrial survey for purpose of establishing soap manufacturing plant and a hardwood dplnt, using oak as basic material. See Want Section—Machinery and Supplies.

Ky., Louisville—Royal Chemical Co., capital \$200,000, incorporated; Walter Crady, Equitable L. & C. Bldg.

Md., Baltimore—National Dairy Products Corp., 1403 Rutaw Place, let contract to C. A. Spicknall & Sons, 855 Pierce St., for laboratory addition; John R. Forsythe, Archt., 16 E. Lexington St. 6-4

Md., Baltimore—Evergreen Building Co., incorporated; C. Edgar Wood, 5601 Harford Road; building and contracting.

Mo., Jefferson City—L. A. Trunck, Dr. W. A. Clark, and associates interested in organizing automobile casualty insurance company with paid-in capital of \$200,000 and paid-in surplus of \$100,000; temporary office, 129½ E. High St.

Mo., Kansas City—Midwest Pre Cote Co., capital \$25,000, incorporated; Edward L. Schneider, Michael Ross, Armour and Locust Sts.; builders and contractors.

Mo., Springfield—Cassidy Box & Printing Co., capital \$50,000, incorporated; James H. Cassidy, 313 E. Water St.

Mo., Springfield—Sterling Ice Machine Co., incorporated; Frank W. Banfield, Enid, Okla.

Mo., St. Louis—Frost Electric Screen Mfg. Co., capital \$50,000, incorporated; James H. Hennessy, 6317 Washington St.

Mo., St. Louis—Charles G. Muench Co., incorporated; C. G. Muench, 1445 Cass St., contracting.

Mo., St. Louis—O. D. Peacock Sultan Co., 112 N. Second St., let contract to W. C. Harting Construction Co., 722 Chestnut St., for factory building at 4500 Parkview Pl.; 4-

story, 41x125 ft., conc. roof, steam heat, cost \$35,000; Clymont & Heinecke, Archts., Wright Bldg. 6-11

Mo., St. Louis—Goodman Decorating Co., Inc., chartered; Maurice Goodman, 4734 Kensington Ave.

Mo., St. Louis—Riverside Amusement Co., incorporated; Edward Greensfelder, Central Natl. Bank Bldg.

Mo., St. Louis—Rose Gruensfelder Beading Co., incorporated; Rose Gruensfelder, 3414 Oregon St.; manufacture shoe buckles, etc.

Mo., St. Louis—Fabricius Co., incorporated; Charles M. Monroe, 406 N. Fourth St., stationery, tablets, etc.

N. C., Asheville—Jack's Flying Service, Inc., capital \$50,000, chartered; C. A. Hayworth, Golda H. Neely.

N. C., Asheville—Swannanoa Laundry, Inc., capital \$100,000, chartered; Canie N. Brown, 165 Montford Ave.

N. C., High Point—Southern Garment Corp., capital \$50,000, incorporated; Hobart M. Bryant, 1107 Clyde St., High Point; install machinery in building on N. Wrenn St. for manufacture misses' and children's dresses.

N. C., Kinston—J. E. Hood & Co., capital \$100,000, incorporated; R. T. Hood, J. C. Hood; drugs.

N. C., Lincolnton—Russell Creamery Co., Inc., S. Government St., acquired creamery plant, plans improvements to interior and grounds. 6-4

N. C., North Wilkesboro—Key City Upholstering Co., plans addition to plant, 50x140 ft., cement base and floor, mill construction.

N. C., Winston-Salem—W. H. Nelson & Co., Reynolds Bldg., has contract for erection of plant for Winston-Salem Leaf Tobacco Co., 12th & Oak Sts. 6-11

S. C., Columbia—Warwick Dry Cleaners, Inc., 1616 Sumter St., chartered; Donie Morris and J. G. Morris.

Tenn., Chattanooga—Roy McDonald, Propr., Home Stores, 1214 Chestnut St., will install and operate milk pasteurization plant; install 20 h. p. boiler, automatic stoker and other equipment.

Tenn., Knoxville—S. D. Cox, Empire Bldg., has contract for construction \$200,000 bakery on Maryville Pike for Kern's Bakery; 2 stories with basement and mezzanine floor; Brown, Greer & Co., Inc., 415 Union Ave., will operate. 5-28

Tex., Austin—Austin News Publishing Co., incorporated; Jack Padgett, 105 W. 32nd St.

Tex., Beaumont—Max-Tex Pig Co., Houston, will establish pig preserving plant at Wesalder-Preservers plant on Crockett St. near Fourth.

Tex., Cuero—Cuero Bag, Awning and Tent Co., W. K. Hill, establish plant Leonardt Bldg. on West Main St., manufacture bag, awning and tent; install \$10,000 equipment.

Tex., Dallas—Lambert Frocks, Inc., chartered David Bernbaum, 314 S. Harwood St.

Tex., El Paso—Nichols Copper Co., 25 Broad St., New York, reported, planning \$1,000,000 rod mill.

Tex., Fort Worth—Rinehart Oil News Co., incorporated; Ira Rinehart, W. T. Waggoner Bldg.

Tex., Galveston—Stability Leather Goods Manufacturing Co., 2705 Olive St., St. Louis, Mo., plans establishing leather goods plant.

Tex., Houston—Brown Cracker & Candy Co., expend \$125,000 for repairing plant 1228 Baker St.

Tex., Longview—List Laundry and Dry Cleaners, Inc., incorporated; B. C. McClellan, 20 Audubon Place, New Orleans, establish laundry.

Tex., Longview—Gregg Construction Co., organized, W. E. Jones, H. W. Turner, as subsidiary of Sabine Engineering Co., to handle all forms of oil field construction.

Tex., San Antonio—Yellow Cab Company, Inc., 500 Dolorosa St., increased capital from \$150,000 to \$200,000.

Va., Clarendon—McMillen & Spaulding Construction Corp., capital \$15,000, chartered; A. C. McMillen.

W. Va., Clarksburg—Ferguson-Merrells Corp., Howard L. Robinson, Pres., reported, acquired stationery division of manufacturing business of Auld's Inc., Columbus, Ohio; leased portion of building 132 S. Second St., equip for copper plate engraving, die stamping, etc.

Motor Bus Lines and Terminals

Alabama—Muscle Shoals-Mobile Bus Lines, Judge W. W. Brandon, Tuscaloosa, Pres., applied to Public Service Comsn., Montgom-

ery, for permission to operate bus line, baggage and mail line via Russellville, Guin, Tuscaloosa, Uniontown, Linden, Grove Hill, Mt. Vernon and intermediate points; application taken under advisement.

Md., Baltimore—United Railways and Electric Co. placed order with three separate companies for construction of 50 buses involving approximately \$450,000; all with 33-passenger capacity; 12 with rear treadle exit doors; leather upholstery, 125-h.p. motors; largely to replace old buses ready to be retired from service; delivery about the end of summer; contracts to Mack Trucks, Inc., 25 Broadway, American Car and Foundry Co., 30 Church St., both New York, and Yellow Coach Manufacturing Co., Pontiac, Mich.

Maryland—Charles A. Crawford, 9 Mt. Olivet Blvd., Frederick Md., applied to Public Service Commission, Baltimore, Md., for permission to operate passenger motor bus line between Frederick and Point of Rocks, via Lime Kiln, Buckeystown, Adamstown, and Doubs.

Maryland—William T. Bloodsworth, Cambridge, Md., applied to Public Service Commission, Baltimore, to operate freight line between Crocherson and Baltimore, via Bishop's Head, Toddville, Crapo, Golden Hill, Cambridge, Denton, and Elkton.

Mo., Joplin—Pickwick-Greyhound Transportation Co., 312 Joplin St., acquired Scenic Bus Line and J. A. Snyder Transportation Co., 413 Virginia St., Joplin.

Mo., Kansas City—Jack Cooper Transport Co., Inc., chartered; Jack O. Cooper, 214 E. 19th St.

Tex., Henderson—Henderson Trucking Co., capital \$10,000, chartered; J. L. Gerreald, C. E. Morefield.

Railway

Tennessee—August Kochs, of Victor Chemical Co., Chicago, acquired Mt. Pleasant Southern Railway.

Railway Shops and Terminals

Miss., Jackson—Illinois Central Railroad, A. F. Blaess, Ch. Engr., Chicago, install gas burning equipment in central heating plant, roundhouse and shops here.

Roads, Streets and Paving

In connection with LAND DEVELOPMENT large sums are expended for roads, streets, paving and sidewalks. Details will be found under that classification.

Proposed Construction

Ala., Mobile—Mobile County may call election in August on bonds for 12 paving projects. 5-14

Ala., Gadsden—City of Gadsden and Etowah County jointly construct riverside drive, west bank of Coosa river and on north bank of Wills creek.

Ark., Fort Smith—City Comsn., let contract for 11,250 barrels of cement for work in Fort Smith paving districts 46 and 47 to Arkhola Sand and Gravel Co., 700 S. B. St., at \$1.96 per barrel.

D. C., Washington—Comms., District of Columbia, Room 509 District Bldg., open bids June 24 for surface treatment of streets, roads, and avenues with bituminous.

Ga., Atlanta—R. W. Torras, Engr. and Sec., City Planning Comsn., submit plan to Federal officials for new traffic arteries in southwestern Atlanta in connection with construction of new post office near Terminal Station.

Ga., Macon—Bibb County, S. Robert Shi, Engr., started preliminary work on widening Forsyth Rd.; pour conc. in 10 days.

KENTUCKY—State Highway Comsn., H. D. Palmore, Ch. Engr., Frankfort, opens bids July 15 for projects in following counties: Breathitt—7.9 mi. grade and drain, Jackson-Saltersville Rd.; Carroll—2.6 mi. surfacing, Carrollton-War-saw Rd.;

Casey—6.7 mi. grade and drain, Liberty-Campbellsville Rd.; Hardin—7.2 mi. surfacing, Cecelia-Vertrees Rd.;

Knott—6.9 mi. grade and drain Hindman-Lackey Rd.;

Fleming—14.6 mi. grade and drain, Flemingsburg-Morehead Rd.;

Monroe—6.1 mi. grade and drain, Tompkinsville-Edmonton Rd.;
Rowan—8 mi., Morehead-Flemingsburg Rd.;
Washington—1.6 mi. surfacing, Springfield-Perryville Rd.

Kentucky—State Highway Comsn., Frankfort, received following low bids:

Fleming—905 mi. street construction, Fields Highway through Flemingsburg, rock asphalt W. B. M. base, North Fork Construction Co., Jackson, \$24,351; rein. conc., Irvine Construction Co., both rein. conc. pipe; rock asphalt, W. B. macad. base, N. Fork Construction Co., \$24,351; rein. conc., Irvine Construction Co., \$23,228, both D. S. V. pipe.

Ky., Louisville—U. S. Engr. Office has low bid of \$26,883 from Frank G. Breslin, 32nd and Market St., for conc. road on reservation of lock and dam No. 41, Ohio River.

LOUISIANA—State Highway Comsn., O. K. Allen, Chmn., Baton Rouge, receives bids July 14 for projects in following counties:

Bienville—3.22 mi. conc., east-west through Ringgold; 2.11 mi. conc., north-south through Arcadia;

De Soto—4.7 mi. conc., between Logansport and Longstreet; 3.1 mi. conc., between Mansfield and Sodus;

Red River—11.326 mi. conc., between Caddo Parish line and Grand Bayou; 11.221 mi. conc., between Grand Bayou and Hanna;

Sabine—3.5 mi. conc., north-south through Sodus;

Calcasieu—78 mi. asphaltic surface treatment, between Lake Charles and Sulphur;

Orleans—1.1 mi. asphaltic surface treatment on approaches to Industrial Canal bridge;

St. Martin—22 mi. asphaltic surface treatment, St. Martinville, Breaux Bridge-Cecilia Highway;

St. Tammany—14 mi. asphaltic surface treatment between Covington and Bush;

St. Landry—11.6 mi. grading and drainage structures between Eunice and Basile; 14.7 mi. gravel between Washington and intersection with Route 214;

St. Landry and Pointe Coupee—14.7 mi. grading and drainage structures from Livonia through Krotz Springs;

Natchitoches—4 mi. gravel, Ashland-Red River Highway;

Terrebonne and Lafourche—7.1 mi. shell on highway between Bourg and LaRose;

Vermilion—6.748 mi. shell between Erath and Intracoastal canal;

De Soto and Natchitoches—8.4 mi. gravel between Pleasant Hill and Lake End;

Caldwell—8.4 mi. gravel between Kelly and Sikes;

Catahoula—4.534 mi. gravel between Guicefield and Nickel;

West Carroll—7 mi. gravel between Kilbourne and Concord;

Iberville—3.7 mi. gravel or shell between Bayou Goula and Forrest Home;

Beauregard—7 mi. gravel between Dry Creek and intersection with Route 22;

Evangeline—8 mi. gravel surfacing between Mamou and Chataignier; 5.9 mi. gravel between Blue Prairie and Ronds;

Jefferson and St. Charles—10.7 mi. sub-grade treatment with shell on highway between Norco and Kenner;

Livingston—6.1 mi. gravel between Doyle and Springville.

Union—7.6 mi. gravel on highway between Marlon and Nutt;

Richland and Franklin—7.3 mi. gravel on highway between Liddieville and Alto;

Richland and Caldwell—7.1 mi. gravel surfacing on highway between Start and Columbia.

La., Alexandria—City receives bids July 6 for paving Third St., between end of brick pavement and city limits; also for paving 25th St., from western boundary of Jackson St. to eastern boundary of Mary St.

La., Lake Charles—State Highway Comsn., O. K. Allen, Chmn., pave scenic highway along lake shore; begin at Clarence St., cross Pithon coulee to Allen Ave., down lakefront to Calcasieu river bridge; also pave South St. road, from Sallier St. to parish farm; 3 mi., 24 ft. wide.

La., Shreveport—Constructing Q. M. Capt. George Lamb, Barksdale Field, received low bid of \$11,183 from R. B. Skannal for earth fill with culvert, Barksdale Blvd., Barksdale Field.

Maryland—National Capital Park and Planning Comsn., Irving G. Roote, Chief Engr., has low bids on paving first unit of Rock Creek Park Blvd., Beach drive at District Line to East-West highway at Jones Mill Rd.; from Thomas, Bennett & Hunter, Westminster, Md., at \$40,084 on macadam, and from Warren F. Brenzler & Co., 1501 S. Capital St., Washington, D. C., at \$46,112 on conc.

MARYLAND—State Roads Comsn., L. H.

Stewart, Sec., Baltimore, received low bids for five roads in following counties:

Allegany—6.65 mi. conc., Cumberland-Oldtown Rd., A-87-64, Cumberland Construction Co., Valley St. Bridge, Cumberland, \$233,362;

Baltimore—83 mi. conc. approaches to Middle River underpass, B-174-43, Harry T. Campbell Construction Co., Towson;

Calvert—2.4 mi. gravel, Bertha to Cove Point, C-27-82, Pembroke & Gasporovic, Park Hall, \$16,737;

Somerset—1.06 mi. Princess Anne-Deal Island road, S-53-12, Hannaman Burroughs Co., Salisbury, \$15,217;

Wicomico—1.2 mi. crusher run slag, oil treat, east approach to Vienna bridge, W-78-17, Hannaman Burroughs Co., Salisbury, \$19,940. 6-4

MARYLAND—State Roads Comsn., L. H. Stewart, Sec., Baltimore, receives bids June 23 on four roads in following counties:

Allegany—5.21 mi. grading and drainage, Oldtown toward Town Creek, A-88-64;

Baltimore City—59 mi. sheet asphalt, Patapsco Ave. from Hanover St. to Brooklyn Ave., BC-105-72;

Calvert County—2.60 mi. gravel, Solomons Island to Olivet, C-43-82;

Talbot—4.34 mi. gravel, Cordova-Easton Road toward Easton, T-35-22.

Md., Baltimore—Bd. of Awards has low bid of \$16,500 from Arundel Construction Co., 910 Trinity St., for Alley Contr. 144, 10,650 sq. ft. conc.; and of \$28,491 from Jos. Guzzo, 1209 N. Eden St., for Footway Contr. 120, 20,000 sq. ft. conc.; Nathan L. Smith, Highways Engr. 6-4

MISSOURI—State Highway Comsn., T. H. Cutler, Ch. Engr., Jefferson City, opens bids for projects in following counties:

Linn—1.326 mi. gravel, Brownin-Linneus, 5-13C; 4.774 mi. gravel, Brownin-Linneus, 5-14S; 3.770 mi. gravel, Brownin-Linneus, 5-15A; .718 mi. graded earth, Marceline south, 4-21;

Worth—3.674 mi. graded earth, Route 29-Denver, SM-1;

Audrain—1.981 mi. gravel, Sturgeon north, SY-LA;

Knox—4.053 mi. gravel, Edina-Lewis Co., 6-53A; 4.335 mi. gravel, Edina-Lewis Co., 6-54A; 3.959 mi. gravel, Edina-Lewis Co., 6-55A;

Benton—2416 lin. ft. guard fence, alternate bids on three types, south of Warsaw;

Lafayette—1364 lin. ft. guard fence in Lexington; alternate bids on three types;

Carroll—4.542 mi. conc. bridges, Carrollton-DeWitt, 24-20B; 2.567 mi. conc. bridges, Carrollton-DeWitt, 24-20C; 3.945 mi. conc. bridges, Carrollton-DeWitt, 24-21A; 4.835 mi. conc. bridges, Carrollton-DeWitt, 24-22A;

Clay—3.254 mi. cherts, Holt-Kearney, SB-1; 3.172 mi. cherts, SB-2;

Clay and Jackson—3500 lin. ft. guard rail, A. S. B. bridge, between Kansas City and N. Kansas City; alternate bids on 3 types;

Platte—4.570 mi. graded earth, Route 71-Clay Co., 92-3; 4.607 mi. graded earth, Route 71-Clay Co., 92-4;

Camden—2.923 mi. gravel, Camdenton-Lebanon, 5-67; 2.048 mi. gravel, Camdenton-Lebanon, 5-68;

Cole—2.676 mi. gravel, Jefferson City-Jamestown, SA14; 4.328 mi. gravel, Centertown-Jamestown, SZ-2; 2.439 mi. gravel, Jefferson City-Jamestown, SA-5;

Cooper—4.082 mi., Lamire, 41-12;

Osage—2.896 mi. conc., Linn-Mt. Sterling, 50-40A; 4.143 mi. conc., Linn-Mt. Sterling, 50-41A; 2.111 mi. conc., Linn-Mt. Sterling, 50-42A;

Sainte Genevieve—1.770 mi. gravel, Sainte Genevieve-Route 61, SB-2;

Warren—4.062 mi. gravel, Hopewell-Marthasville, 47-15; bridge at Station #46 plus 34, over Charette Creek, 47-15; 1.336 mi. gravel, Holstein-Treloar, SN-2;

Jasper—4.339 mi. gravel and crushed stone, Avilla north, SJ-1; 3.960 mi. gr. and cr. stone, Avilla north, SJ-2; 3.409 mi. gr. and cr. stone, SJ-3;

Newton—1.392 mi. conc. through Neosho, 60-4;

Howell—3.433 mi. gravel, Summerville-Mountain View, 17-44;

Texas—681 mi. gravel, Summerville-Mountain View, 17-44; 1.515 mi. gravel, Summerville-Mountain View, 17-43B;

Oregon—3.153 mi. gravel, Thomasville-Alton, 19-51; 3.979 mi. gravel, Thomasville-Alton, 19-52;

Dunklin—4.999 mi. conc. and gravel, McGuire-White Oak, 25-42; 4.978 mi. conc. and gr., McGuire-White Oak, 25-43; 4.891 mi. conc. and gr., McGuire-White Oak, 35-44;

Mo., Carthage—City Council considering oil and improvement of streets.

Mo., Independence—Jackson County, Col. E. M. Statton, Const. Engr., completed surveys for 38 miles county highways, engineers begin surveys on 22 additional miles; \$3,500,000 bonds voted; sell in about six weeks;

surveys to be made include State Line road, city limits to Martin City, 7 1/2 mi. conc.; Raytown south to Outer Belt road, 9 mi., cost \$325,000; Ash and Sterling Aves., north-south roads between Kansas City and Independence, cost \$260,000; surveys completed include from Grain Valley, south to highway No. 50, 8 mi., cost \$300,000; Independence south over Noland Ave. to Knobtown, 9 mi., \$365,000; Bannister Road from Unity farm to state line, 11 mi., \$460,000; Kentucky Ave.-Sugar Creek-Cement Coburn Road, 10 mi., \$280,000. 6-4

Mo., St. Louis—Bd. of Public Service receives bids June 23 to reconstruct Westminster, Vandeventer to Boyle, Letting 4274; improve Tholozan, from Watson Rd. to Prather, Letting 4275; reconstruct Wyoming, from Jefferson to Iowa, Letting 4276; Wyoming, from 13th to Lemp, Letting 4277; June 30 to improve alleys in cb. 1657, between Illinois, Missouri, Keokuk & Chippewa, 4278; in cbs. 2802 and 5224 between Reber Place and line 21.45 and in cb. 2802, Magnolia, Clifton & Tamm; for improving Mimika, north line Sherry to north line Emma, Letting 4280; reconstructing Wyoming, from Lemp to Jefferson, 4281; and from Iowa to Gravois, 4282; reconstruct Taylor, from Forest Park to Maryland, 4283.

SOUTH CAROLINA—State Highway Comsn., Ben M. Sawyer, Ch. Commr., Columbia, received low bids, bituminous surfacing unless otherwise noted, in following Counties:

Greenwood—15.5 mi. Route 10, from south of Greenwood to McCormick County line, C. G. Fuller, Barnwell, \$51,091.

Laurens—11 mi. Route 15, between Laurens and Princeton, R. B. Tyler Co., 1446 Levering St., Louisville, Ky., \$58,483.

McCormick—15.5 mi. Route 20, Parksville to Savannah River, R. B. Tyler Co., \$79,593;

Clarendon-Williamsburg—34.06 mi. Route 26, south of Manning to near Kingstree and Route 261 from Route 26 near Wilson via Greelyville to Route 17, etc. C. M. Gray, Gainesville, Fla., \$259,665;

Colleton—12 mi. Routes 303 and 32, Walterboro to Green Pond, C. G. Fuller, \$102,374;

Beaufort—19 mi. Route 33, Bluffton via Hardeeville to Jasper County line, and Route 170, Route 33 south of Hardeeville to U. S. Route 17, C. G. Fuller, \$141,374;

Spartanburg—17 mi. Route 56, Pauline to near Enoree River, R. B. Tyler Co., \$58,510;

Newberry County—7.5 mi. Route 391, Prosperity to Saluda River, R. B. Tyler Co., \$22,900;

Chesterfield—28 mi. Route 35, McBee via Jefferson to North Carolina state line, C. G. Fuller, \$74,342;

Orangeburg-Calhoun—12 mi. conc., Route 2, Orangeburg city limits to St. Matthews, Mitchell Brothers Construction Co., 3828 First Ave., S. Birmingham, Ala., \$170,840;

Chester—14.8 mi. conc., Route 9, Chester to Richburg and Chester toward Lockhart, and 2.6 mi. Route 7, Chester toward Broad River, Ben H. Martin, Easley, \$210,965;

Lancaster—7 mi. conc. Route 9, Lancaster to Primus, William F. Bowe, Jr., 540 Reynolds St., Augusta, Ga., \$123,876;

Pickens—48 mi. conc., Route 14, Pickens to North Carolina line, Pennell and Harley, Montgomery Bldg., Spartanburg, \$77,082;

Newberry—9 mi. conc., Route 22, Newberry to Dead Fall and Route 192, Dickson-Carroll Co., Greenville, \$127,605;

Georgetown—17 mi. conc., Route 26, Georgetown via Andrews to Route 511, H. E. Wolfe Construction Co., First Natl. Bank Bldg., St. Augustine, Fla., \$296,809;

Allendale—11 mi. conc., Route 28, Allendale to Martins, Mitchell Brothers Construction Co., \$156,679;

Orangeburg-Dorchester—20 mi. conc., Route 30, Wilmore Paving Co., Middletown, Ohio, \$265,352;

Horry—24 mi. conc., Route 40, Route 38 north of Conway via Bayboro and Green Sea to North Carolina line, Wilmore Paving Co., \$320,813;

Aiken—12.5 mi. conc., U. S. Route 78, Montmorenci via Windsor to Barnwell County line, H. E. Wolfe Construction Co., \$181,697;

.065 mi. Route 1, R. G. Kennedy, Batesburg, \$1637. 5-22

S. C. Anderson—Anderson County, A. H. Patterson, Engr., receives bids July 1 for highway improvements. See Want Section—Bids Asked.

S. C. Columbia—State of South Carolina, Ibra C. Blackwood, Gov. J. H. Scarborough, Treas., opens bids July 1 for \$5,000,000 State Highway Certificates of Indebtedness; Ben M. Sawyer, Ch. Commr.

Tenn., Chattanooga—War Dept., Capt. W. J. Redner, Q. M. Corps, received low bid of \$150,185 from J. J. Higginson, Jr., 906 Napier Ave., Macon, Ga., for Crest road, Missionary Ridge; also low bid of \$263,364, from

Burrell, Barrow & Kirkpatrick Co., Russellville, Ky., for 20 mi. road including one bridge, between Shiloh National Park and Corinth, Miss.

Tenn., Memphis—City Comsn. considering paving Bethel and Keathing Sts., and Arlington Ave., at Bethel Grove School; \$15,000.

Texas—State Highway Comsn., Gibb Gilchrist, Engr., Austin, receives bids June 22 for double bituminous surface treatment on highways in Callahan and Red River Eastland counties, Job M-8-Q-3, 3.206 mi. Highway 23; Job M-8-R-3, 13.614 mi. Highway 23; also for Job M-1-P-5, 7.5 mi. Highway No. 49.

TEXAS—State Highway Comsn., Gibb Gilchrist, Engr., Austin, receives bids June 22 for projects involving \$4,962,000, including those in following counties:

Wheeler—17.2 mi., conc., Hwy. 4, Shamrock to Wheeler;

Hemphill—13.8 mi. grading and drainage, and conc., Hwy. 33, Lipscomb county line to Hwy. 4; 7.5 mi. grading and drainage, Hwy. 4, from Hwy. 33 to Canadian;

Lipscomb—11.2 mi. drainage and conc., Hwy. 33, Oklahoma line to Hemphill county line;

Lubbock—2.5 mi. grading and drainage, conc. paving, Hwy. 7 and 137, Lubbock to Highway 24;

Cottle—8.5 mi. conc., Hwy. 4, Paducah north;

Crockett—15 mi. grading and drainage, Hwy. 27, Ozona to Sutton county line;

Culberson—13 mi. grade and drain, Hwy. 1, east of Van Horn;

De Witt—6.6 mi. limestone and rock asphalt, Hwy. 72, Smith Creek to Karnes county line;

Erath—17.4 mi. grade and drain, Hwy. 67, Dublin to Hamilton county line;

Fisher—5.2 mi. grade and drain, Hwy. 70, Roby to Rotan;

Fort Bend—2.6 mi. grade and drain, and conc. paving, Hwy. 3, Rosenberg to Brazos River;

Galveston—16.8 mi. conc., Hwy. 38, Highway 6 to Brazoria county line;

Hardeman—13.4 mi. conc., Hwy. 51, Quanah to Pease River;

Navarro—9.4 mi. conc., Hwy. 14, Ellis county line to north of Corsicana; 9.6 mi. conc., Hwy. 22, south of Corsicana to Road Dist. No. 1;

Ellis—7.5 mi. conc., Hwy. 14, Navarro county line to Ennis;

Pecos—22.5 mi. grade and drain, Hwy. 89, from Highway 27 to Pecos River;

Presidio—15 mi. grade and drain, Hwy. 118, Marfa south;

San Jacinto—14.8 mi. grade and drain, Hwy. 150, Cold Springs to Walker county line;

San Patricio—3.7 mi., Hwy. 12, La Fruta to Mathis;

Scurry-Mitchell—9.3 mi. double bituminous surface on caliche base, Hwy. 7, Nolan county line to Hermleigh;

Tarrant—9.6 mi. conc., Hwy. 10, from Hwy. 121 north to Keller;

Titus—1.7 mi. grade and drain, Hwy. 49, Mt. Pleasant to Hart's Creek bottom;

Tyler—5.5 mi. grading and drain, Hwy. 106, Chester Road District to Woodville;

Van Zandt—12.9 mi. grade and drain, Hwy. 64, Wills Point to Canton;

Wharton—7 mi. grade and drain, Hwy. 3, near East Bernard to Lissie;

Henderson—7.7 mi. grade and drain, Hwy. 40, west of La Rue to Poyner;

Houston—8 mi. grade and drain, Hwy. 106, Crockett to Pennington;

Houston-Anderson—17.1 mi. conc., Hwy. 19, Crockett to Elkhart;

Kerr—13.3 mi. grade and drain, Hwy. 27, Kendall county line to east of Kerrville;

Gonzales—5.3 mi. conc. base course, Hwy. 81, east of Smiley to DeWitt county line;

Motley—21.6 mi. grade and drainage, Hwy. 18, Matador to Hall county line.

Tex., Beaumont—City, Emmett A. Fletcher Mayor, to ask bids for paving Madison, Grover and Burt streets.

Tex., Corsicana—Navarro County, J. M. Tullos, Auditor, receives bids July 1 for 7½ mi. Navarro County, Cardinal Road No. 4, from South 15th St. to Richland Creek, and ¾ mi. Navarro County lateral road No. 4, North Beaton St. to U. S. Highway 75.

Tex., Edna—Jackson County votes July 3 on \$1,150,000 highway bonds.

Tex., El Paso—City widen and improve N. Oregon St., San Antonio to Mills.

Tex., Galveston—Galveston County, I. Predecki, Auditor, receives bids July 7 for bituminous surface treatment for three shell roads, approx. 18.2 mi.; Laeague City-Friendswood, Texas City-La Marque, Dickinson-Alta Loma.

Tex., Houston—City, W. B. Stewart, Asst. Paving Engr., pave West Gray St., Taft Valentine St.; Gulf Bithulithic Co., Contr., 2820 Polk St.; also pave Cochran, Hogan to Quitman.

Tex., Houston—City Council authorized Hedges & Co., Esperson Bldg., to lay 2-course bituminous surface paving on Clay Ave., from Telephone Rd. to Dumble St.; without cost to city.

Tex., Houston—City pave Westheimer Rd., Woodhead St. west one mile to connect with county paving; J. M. Nagle, City Engr.

Tex., Houston—City Engineer J. M. Nagle recommended award of contract at \$139,791 to Don Hall, Union Natl. Bank Bldg., for paving Telephone Road.

Tex., Lagrange—Fayette County voted \$25,000 road Dist. No. 11 bonds; Thos. W. Lueders, Judge.

Tex., Refugio—City, J. O. West, Mayor, plans election on bonds for paving.

Tex., San Antonio—State Highway Comsn., Austin, Bexar County Commrs. Court, and City of San Antonio, expend \$385,000 for constructing portion of new highway to Seguin.

Tex., San Antonio—City, James Simpson, City Clerk, received bid of \$15,584 from Alamo Paving Co., 321 Dawson St., for improving Shook Ave., Mulberry to Bushnell, I. Ewig, City Engr.

Tex., Sinton—State Highway Comsn., Gibb Gilchrist, Engr., Austin, plans St. Highway 128 within city limits; George Achterburg, Res. Engr., making survey for section from Angelita, two miles south of Odem, and the Nueces River.

VIRGINIA—State Dept. of Highways, C. S. Mullen, Ch. Engr., Richmond, received low bids for projects in following counties:

Accomac—1.3 mi. conc., Route 34, Exmore to south of Keller, Spotsylvania Construction Co., Highland Springs, \$32,449;

Tazewell—4.4 mi. macadam, Route 112, at Tazewell, Tazewell Construction Co., Richlands, \$35,393;

Nansemond—7.6 mi. conc., Route 12, Bowers Hill to Magnolia, Robert G. Lassiter & Co., Raleigh, N. C., \$141,526;

Alleghany—2.4 mi. macadam, Route 800, Covington, north, Pocahontas Construction Co., Cass, W. Va.;

Franklin—4.6 mi. soil roadway, Route 20, Redwood to Route 33 at Rocky Mount, C. A. Ragland, Louisville, N. C., \$35,820.

Virginia—Dept. of Agriculture, Bureau of Public Roads, Willard Bldg., Washington, D. C., opens bids June 26 for grading on 22.07 mi. Route No. 1, Shenandoah National Park, Sec. C, D and E. See Want Section—Bids Asked.

Va., Fairfax—Fairfax County Bd. of Supervisors considering road improvements; include road from Richmond highway east to Quander Rd.; location change for Beattie Rd., between Little River and Columbia pikes; straighten county road No. 4 from Browns Chapel, toward Herndon.

Va., Quantico—Navy Dept., Bureau of Yards and Docks, has low bid of \$12,697 from E. P. Lindsay, Portsmouth, Va., on conc. aprons and roads, Quantico air field.

Va., Quantico—Navy Dept., Bureau of Yards and Docks, Washington, D. C., has low bid of \$50,685 from Curtis Brothers, 6736 State Road, Philadelphia, Pa., on widening and paving roads at marine barracks.

Va., Richmond—City, Maron Harris, Chief, Bureau of Streets, pave Cary St., Williamsburg Ave., Canal St., Mill St. and Byrd St. with vitrified brick.

Va., Skyland—U. S. Dept. of Agriculture, Bureau of Public Roads, Thos. H. MacDonald, Chief, receives bids June 25 for 20.4 mi. highway, grading and structures in proposed Shenandoah National Park. See Want Section—Bids Asked.

W. Va., Bluefield—City, Elmer Barton, City Mgr., start grading Orchard St., Pearl to Cumberland Rd.

W. Va., Clarksburg—City, Thomas Lang, City Engr., started right-of-way cost survey on 1800-ft. Clarksburg section of proposed Simpson's Fork route of Northwestern turnpike; Dr. L. M. Robinson, City Mgr.

W. Va., Clarksburg—Harris County, Maurice L. Loudin, Clk., opens b.ds June 24 for Proj. No. 180; surfacing with Amiesite or hot-mix macadam, Nolan Run Rd. in Eagle District, from intersection with Jones Run road northwesterly.

W. Va., Clarksburg—Harrison County Court, Maurice L. Loudin, Clerk, opens bids June 24 for Proj. 180, surfacing with Amiesite, Nolan Run, in Eagle District.

Contracts Awarded

Ala., Pell City—State Highway Comsn., L. G. Smith, Chmn., Montgomery, pave 10 miles Bankhead highway, between Lincoln and Pell City; \$200,000; convict labor.

Ark., Fort Smith—Sebastian County, S. A. Lynch, Judge, let contract at \$15,638 to E. H. Dick & Co., Oklahoma City, for ¾ mi. conc. highway, from Kelley Highway to O St., on Waldron Rd., Fort Smith district of Sebastian County.

FLORIDA—State Highway Comsn., Tallahassee, let contracts for roads, following counties:

Osceola—asphalt material for Route 30, Faulk & Coleman, West Palm Beach, \$41,600;

Levy—material for Rd. 13, Independent Coal Tar Co., 88 Broad St., Boston, Mass., \$5145; material for Road 13, Florida Crushed Stone Co., Jacksonville, \$11,441;

Alachua—material for Road 14, Williston Shell Rock Co., Williston, \$4600.

Other contracts included 300,000-pound testing machine, Tinius Olsen Testing Machine Co., 12th and Buttonwood Sts., Philadelphia, Pa., \$6250; and materials contracts to Independent Coal Tar Co., \$3605; Texas Company, \$5016; Florida Crushed Stone Co., \$8512; M. M. Thomas Co., Ocala, \$6524; Standard Rock Co., Ocala, \$23,375.

KENTUCKY—State Highway Comsn., H. D. Palmore, Engr., Frankfort, let contracts for projects in following counties:

Breckinridge—1.084 mi. grade and drain, Hardinsburg-Leitchfield Rd., S. P. 441-AG, The Hoke Co., Beuchel, \$26,828.

Grayson—3.707 mi. grade and drain, Leitchfield-Hardinsburg Rd., S. P. 138-BG, The Hoke Co., Beuchel, \$26,828.

Harrison—3.749 mi. surface mix treatment, Cynthia-Brooksville Rd., S. P. 58½-C2S, Kaiser Transportation Co., Beuchel, \$40,415.

Lyon—1.685 mi. grade and drain, Eddyville-Smithland Rd., S. P. 10-DG, Corum Bros., Madisonville, Ky., \$23,242.

Carter—1.136 mi. grade and drain, Olive Hill-Soldier Rd., F. R. 13-AG, Codell Construction Co., Winchester, \$63,939.

Bath—.687 mi. curb and gutter, Flemingsburg-Mt. Sterling Rd., F. A. 219 A2, Thomas Ruth Co., Frankfort, \$6,077.

Louisiana—State Highway Comsn., O. K. Allen, Chmn., Baton Rouge, let contract for 1.346 mi. conc., between Monroe and Archibald, to Glassell-Cockran, Inc., 260 Cadillac St., Shreveport; and for 42 mi. asphaltic surface treatment between Houma and Westwego to Merritt, Chapman and Williams, New Orleans, at \$333,901.

La., Monroe—City, P. A. Poag, City Sec., let contract to Monroe Construction Co., 100 Wood St., West Monroe, for paving Lee Ave., and Grand and Jackson Sts.; W. I. Neel, City Engr.

MARYLAND—State Roads Comsn., L. H. Steuart, Sec., Baltimore, let contracts for projects in following counties:

Carroll—8.26 mi. conc. shoulders, Liberty Rd., Cont. C1-97-511, Thomas, Bennett & Hunter, Westminster, \$95,770.

Charles—2.1 mi. LaPlata-Dentsville Rd., Cont. Ch-103-84, Southern Maryland Construction Co., 10 E. Lexington St., Baltimore, \$23,323; 1.87 mi. gravel, Hughesville-Burnt Store Rd., Ch-105-84, Pembroke & Gasporvic, Park Hall, \$8,290.

Harford—1.76 mi. macadam, Shook's corner to Thomas Run, H-121-42, T. B. Gatch & Sons Contracting & Building Corp., 3537 Belair Rd., Baltimore, \$29,206.

St. Mary's—1.14 mi. gravel, Manor Rd., Sm-85-84, H. W. Hewitt & Sons, Valley Lee, Md.

Washington—3.20 mi. macadam, Dry Run to Fairview, Dry Run toward National Pike, W-91-62, Frank Byrons, 638 Register Ave., Baltimore, \$52,892.

Md., Baltimore—State Roads Comsn., Baltimore, let contract to pave L. R. Colbert, at \$66,888, to pave University drive and Chillum road, from Riggs Road to Baltimore Blvd.

Miss., Bay St. Louis—City let contract to Globe Construction Co., Inc., Louisiana Bldg., New Orleans, and Dixie Asphalt Co., Birmingham, for hardsurfacing Carroll Ave. and Keller Ave.

Miss., Greenville—City let contract to C. H. Barber, for 6900 ft. curb and gutter, on McAllister and Starling Sts.

Mo., St. Louis—Bd. of Public Service let following contracts: Asphalt, West side 12th St., from Geyer Ave. to north of Hickory St., Crean & Scott Construction Co., 1240 Sublette St., \$42,548; asphalt, Gravois Ave., from Arsenal to Cherokee St., Central Paving and Construction Co., 5523 Marcherette St., \$155,088; asphalt, Gravois Ave., Cherokee to Grand Blvd., Webb-Boone Paving Co., Co., 5103 Tyler St., \$53,350; asphalt, University Circle at Skinner and Lindell Bldgs.,

C. A. Moreno Co., Synd. Trust Bldg., \$22,608; asphalt, Utah St., from Bent Ave. to Morganford Rd., Asphalt Paving Co., 1328 Sublette St., \$28,458; conc., Chippewa St., from Sulphur to Tamm Ave., Eyermann Contracting Co., 1210 S. Grand St., \$8876; conc., Lansdowne Ave., McCausland Ave. to city limits, Alfred Lewald, Inc., 6038 Delmar Blvd., \$9332; conc., Morganford Rd., from Kingshighway to city limits, William A. Riley Construction Co., 706 Chestnut St., \$31,446; vibrolithic conc., Bulwer Ave., Perkinson Brothers Construction Co., 3237 Carter St., \$11,221; warrenite bitulithic Tholozan Ave., from Lucy St. to Alfred Ave., Granite Bituminous Paving Co., Rwy. Exch. Bldg., \$8047; asphalt, Gravois Ave., from Geyer Ave. to 18th St., Asphalt Manufacturing Co., \$67,804; asphaltic conc., Tamm Ave., from Arsenal St. to Odell St., Asphalt Paving Co., \$10,469.

Okla., Muskogee—Moran and Buckner have contract to paving 4½-mi. cut-off between Muskogee and Haskell.

Okla., Oklahoma City—City let contract for 7-in. conc. paving on 28th, 29th and 30th streets to M. A. Swatek & Co., 519½ W. Main St., at \$63,718; L. M. Bush, City Engr.; M. Peshek, Jr., City Clerk.

Okla., Tulsa—Tulsa County Commrs. let paving contracts: To Highway Construction Co., Daniels Bldg., at \$21,200, for 1 mi., north Sand Springs Rd.; at \$34,492, 1½ mi. Yale Ave., between 15th and 31st Sts.; at \$17,200, 51st St., between Peoria and Lewis Ave.; to Roy Turner Paving Co., at \$28,708, 1 mi. road from Post Oak corner, west of Red Fork north to Zenith rock crusher; S. K. McLelland, County Engr.

Va., Roanoke—City Council let following contracts for curb, gutter, drains and street improvements: Conc. sidewalks; southeast section, Campbell and Peters, \$16,080; southwest and South Roanoke sections, same, \$4387; northeast and northwest sections, Marshall and Baird, \$11,514; Raleigh Court, Virginia Heights and Wasena, same, \$5560; curb and gutter; northwest section, Marshall and Baird, \$48,116; southwest section, same, \$19,313; South Roanoke section, same, \$32,619; Virginia Heights, Raleigh Court and Wasena, F. H. Major, \$47,431; southeast section, J. R. Ford, Inc., Summit Ave. and Sixth St., Wasena, \$21,288; northeast section, same, \$13,184; conc. paving; Rorer Ave., S. W., between Fourth and Fifth Sts., W. W. Draper & Son, 347 Highland Ave., S. W., \$2999; Norfolk Ave., S. W. from Jefferson St. to First St., and Norfolk Ave., S. E. First St. to Campbell Ave., W. W. Draper & Son, \$10,877; resurfacing, Third St., S. E., from Tazewell Ave. to Mountain Ave., N. Jefferson St., from Shenandoah Ave. to Gilmer Ave., and Luck Ave., S. W., from rear of No. 1 fire station west to First St., C. L. Tinsley, 615 13th St., S. W., \$10,000; conc. box culverts, 11th St., N. W., and Moorman Rd., R. C. Churchill Co., Inc., \$6260; 11th St., S. E., R. C. Churchill Co., Inc., Walnut Ave. viaduct, \$8276.

WEST VIRGINIA — State Road Comsp., Geo. E. White, Sec., Charleston, awarded contracts for projects in following counties:

Braxton—78 mi. conc., F. M. Burke Const. Co., Davidson Bldg., Charleston, \$35,354;

Kanawha — 5.311 mi. grade and drain, Board and Board, 901 Washington St., Charleston, \$94,811;

Randolph — 21.8 mi. surface treatment, Bartlett Construction Co., Clarksville, Va., \$35,244;

Logan — Man bridge, substructure, J. M. Francesca & Co., Fayetteville, W. Va., \$8,388; superstructure, Bristol Steel & Iron Co., Bristol, Va., \$13,500.

Mercer—Proj. 2040, Hill Construction Co., Oak Hill, \$69,802;

Mineral—Proj. 3010, Gilbert Construction Co., Glen Hedrick, \$14,613;

Mingo—State Route 8, Southern Ohio Quarries Co., Chillicothe, Ohio, \$38,235;

Morgan—Proj. 3490-B, Parker Construction Co., Morgantown, \$48,287;

Raleigh—Proj. 2212, Davis & Reynolds, Morgantown, \$10,553;

Wayne—Proj. Part of 2180, Hunt-Forbes Construction Co., First Huntington Natl. Bank Bldg., Huntington, \$112,529. 6-4

W. Va., Huntington—City let contract to Hunt-Forbes Construction Co., First Huntington Natl. Bank Bldg., to grade right-of-way and construction of crossings over Baltimore & Ohio tracks from Camden crossing to west boundary of Camden Park.

Sewer Construction

Sewer construction in LAND DEVELOPMENT projects involves the expenditure of large sums of money. Under that classification details of these improvements are reported.

Ala., Tuscaloosa—City Norfleet Harris, Pres., Bd. of Commrs., bids July 14 for sani-

tary sewer construction. See Want Section—Bids asked.

D. C., Washington—District Commrs. negotiating for site for Oxon Run temporary sewage-treatment plant.

La., Minden—City considering extension of sewer system, H. L. Bridges, Mayor.

Md., Baltimore—Marocco Contg. Co., 231 S. Exeter St., has contract at \$54,000 for substructure for screen house, Back River; bids on superstructure will probably be called for this summer. 6-11

Md., Baltimore—W. A. Thompson, Relay, low bidder at \$21,873 for Storm Water Sewer Cont. No. 165; Gray Concrete Co., Duncan Lane, low bidder at \$33,415 for Material Cont. (conc. pipe), No. 84, for Back River sewer. 6-4

Mo., St. Joseph—Oscar H. Schmidt, 112 N. Ninth St., low bidder on two sewer projects and Judson Engineering & Construction Co., 1811 Faraon St., low bidder on one sewer project.

Okla., Boise City—City, A. I. Baker, Clerk, voted \$85,000 bonds for main and lateral sewer system and sewage disposal plant; plans in progress by Charles A. Haskins, Cons. Engr., 822 Finance Bldg., Kansas City, Mo., available about June 22; will construct Imhoff tank, sludge drying beds, intermittent filters; datet of opening bids not set. 6-11

Okla., Oklahoma City—Koller Construction Co., Trades Natl. Bank Bldg., Oklahoma City, reported has contract sanitary main sewer in White Orchard Addition and in Edgmore Park Addition.

Tenn., Chattanooga—Legislature to consider plan for \$200,000 bonds for sewer system in Brainerd.

Tex., Gladewater—See Water Works.

Tex., Overton—See Water Works.

Telephone Systems

La., New Orleans—Dept. of Commerce clearing 6-acre site for airway radio station, Shushan airport.

Miss., Oxford—Donald McIver, 1105 Candler Bldg., Atlanta, Ga., has contract for exchange building for Southern Bell Telephone & Telegraph Co., Healey Bldg., Atlanta, Ga.; 1-story and basement; 31x54 ft.; conc. foundations; brick and tile walls; hardwood and cement oors; F. M. Craft, Engr., Hurt Bldg., Atlanta. 6-4

Mo., Joplin—Southwestern Bell Telephone Co., St. Louis, reported, started construction work on \$1,500,000 Joplin-Tulsa link of company's St. Louis-to-Dallas cable line; the line will extend from new terminal building at Eighth & Pearl Sts., to Tulsa, via Vinita.

N. C., Dobson—G. C. Wallace, Hamptonville, and associates, reported interested in installation telephone system and electric line erected from Elkin to Brooks Cross Road and Hamptonville.

Tex., Fort Worth—Southwestern Bell Telephone Co., Dallas, let general contract to Eckert-Burton Construction Co., Inc., Burt Bldg., Dallas, for Fort Worth "4" and "6" Building; plumbing and heating, S. P. Osburn, 1900 Fifth Ave.; electric wiring for "4" Building, Miller Brothers, 1006 Main St., both Fort Worth; electric wiring for "6" Building, Shotts Electric Co., 211 W. Eighth St.; C. E. Overbeck, Bldg. Engr. 6-4

Tex., Huntsville—Southwestern Bell Telephone Co. construct exchange building, 13th St. between Ave. J and Ave. K.

Tex., Tyler—Gulf States Telephone Co., Oscar Burton, Gen. Mgr., to withhold development of plans for office building. 5-28

W. Va., Charleston—Following contractors estimating on Chesapeake & Potomac Telephone building, bids to open June 18: Samuel J. Prescott Co., 814 Thirteenth St.; George A. Fuller Co., Munsey Bldg.; Loudon-Rust Co., District National Bank Bldg., all Washington, D. C.; Consolidated Engineering Co., St. Paul & Franklin Sts.; Frainie Brothers, 19 W. Franklin St., both Baltimore, Md.; John W. Cowper Co., State Planters Bank Bldg., Richmond, Va.; A. G. Higginbotham; Ward & Ward, 623 Peoples Bk. Bldg., both Charleston, W. Va.; W. T. Grange Construction Co., 1100 Keenan Bldg., Pittsburgh, Pa.; W. J. Schirmer Co., 1720 Euclid Ave.; The Lundoff-Bicknell Co., B. F. Keith Bldg., both Cleveland, Ohio; H. R. Blagg Co., 1229 E. Third St., Dayton, Ohio; Persun and Sheets; C. W. Hancock & Sons, 1010 Robson-Prichard Bldg.; R. Mankin & Co., 824 Robson-Prichard Bldg., all Hunting-

ton, W. Va.; Engstrom & Wynn, 1117 Chapline St., Wheeling, W. Va. 6-11

Textile Mills

Ga., McDonough—Newton Coal & Lumber Co., Griffin, reported has contract for McDonough Hosiery Mills; 1-story, 50x120 ft.; conc. foundation; brick walls; comp. roof.

Ga., Shannon—Southern Brighton Mills, reported purchased 750 Draper looms from McCampbell & Co., 320 Broadway, New York; manufacture print cloth fabric.

Ky., Corbin—See Miscellaneous Enterprises.

Miss., Columbus—Chamber of Commerce, reported, negotiating with New England Textile Co., Boston and 341 Broadway, New York, for establishment textile mill.

N. C., Asheboro—C. H. Wood, Asheboro, has contract for 60x185-ft. building for Asheboro Hosiery Mills; output 6500 doz. pairs seamless hosiery per day; A. J. Maxwell, Jr., Archt.-Engr., 908 Cowper Drive, Raleigh.

N. C., High Point—Adams-Millis Corp. reported construct 5-story finishing plant, Pine and English St., and an addition to present Pine St. plant; manufacture full-fashioned hosiery.

N. C., Lowell—United Spinners, Inc., and Peerless Spinning Co., incorporated with John M. Scott, Pres., 908 S. Tryon St., Charlotte; and W. L. Balthis, Secy.-Treas.; does not contemplate installation of new equipment or machinery at this time. 6-11

N. C., Lowell—Peerless Manufacturing Co., and United Spinners, Inc., W. L. Balthis, Secy.-Treas., advise regarding the reorganization of Lowell and Peerless Mills; United Spinners, Inc., succeeded Lowell Cotton Mills, J. M. Scott, Charlotte, N. C., Pres., W. L. Balthis, Gastonia, N. C., Secy.-Treas.; owns and will operate plant No. 1 with 9216 spindles; plant No. 2 with 14,304 spindles, both located at Lowell, and plant No. 3 with 11,072 spindles, located at Dallas; Peerless Spinning Co., succeeded Peerless Manufacturing Co., J. M. Scott, Pres.; plant is located in Lowell and has 15,160 spindles, and will be operated by the owner; mills are all on fine combed yarns. 6-11

Okla., Sand Spring—J. E. Serrine & Co., Engrs., Greenville, S. C., advises are designing certain extensions and additions to existing bleachery of Sand Springs Textile Mills; expansion includes modern water treatment plant consisting of aerator, coagulation, filtering and softening. 4-30

Tenn., Columbia—Massachusetts Knitting Mills, J. S. Gordon, Pres., Boston, Mass., acquired \$350,000 plant of Cadet Hosiery Co.; plans putting in operation for the manufacture of "MKM" full fashioned hosiery; will install two carloads of additional machinery; doubling capacity of plant; main building is 343x107 ft., equipped with 55 full fashioned hosiery knitting machines.

Tenn., Columbia—Washington Manufacturing Co. plans installing 30 additional garment machines.

Va., Blackstone—David Shapiro and Joseph Shapiro, Lincoln Bldg., New York, recently acquired Klotz Silk Manufacturing Co., will operate under name of Blackstone Weaving Co. 6-11

Water Works

Details of water works improvements in connection with the many LAND DEVELOPMENT operations will be found under that Classification.

Ga., Thomasville—Prince Jinright, Thomasville, has contract at \$19,338 for construction of 3-story building for water softening plant; purchase of softening equipment will be made from Burford, Hall & Smith, Red Rock Bldg., Atlanta, at cost of \$16,990; R. D. Cole Manufacturing Co., Newnan, will furnish wet and dry scrubbers and wash water tank; Dorr Clarifier Co., Candler Bldg., clarifying machinery; hydraulic elevator from Otis Elevator Co., 39 Harris St., N. E.; Wiedeman & Singleton, Engrs. Candler Bldg., all Atlanta. 5-28

Ga., Valdosta—City, W. H. Gainey, Supt., water plant, plans expending \$25,000, improvements to plant; work includes addition of new well, two pumps, overhead storage tank with capacity of 300,000 gal.; will abandon present steam plant, substitute electricity for pumping water and providing pressure for fire hydrants; negotiating for purchase 17 acres western section of city for development cemetery. 6-11

FIRE DAMAGE

Ky., Erlanger—Town, Finley Fishback, Clerk, plans issuing \$20,000 bonds, complete water works system.

Ky., Louisville—Lock Joint Pipe Co., Amper, N. J., has contract for 7½ miles mains to reservoir Louisville Water Co.; will establish plant Louisville Ave. and Pocahontas St. for manufacture conc. pipe; contract calls for 20,000 ft. 60 in. and 18,000 ft. 48 in. pipe. 6-11

Md., Brunswick—City acquired Yourtee Springs, will acquire Big Spring and Cool Spring, both in Washington County, near Weverton; also 1.6 acres of land at the spring, 20 ft. roadway, and 20 ft. pipeline; Harry C. Allgire, Mayor. 4-23

Mo., Joplin—Joplin Water Works Co., J. N. Wells, Gen. Mgr., expend \$25,000 for constructing 10,000 ft. water mains; surveys and plans completed.

Mo., St. Louis—McClintic-Marshall Co., Pittsburgh, Pa., reported, has contract at \$23,800 for pipe for water works improvements. 6-11

Okla., Chickasha—City, J. L. Larson, Mayor, has plans and specifications about completed for addition to filtration plant and distribution system; Hawley, Freese & Nichols, 417 Capps Bldg., Fort Worth, Tex., and Robt. O. Bradley, Chickasha, Consol. Engrs.; cost about \$193,528.

Okla., Lawton—Sherman Machine & Iron Works, 18 E. Main St., Oklahoma City, reported, has contract at \$150,000 for 10,000-gal. water filtration plant, equipment, etc.

Tenn., Lebanon—City, Frank Buchanan, Mayor, let following contracts for water works improvements: Sections 1 and 2, Fiske-Carter Construction Co., Spartanburg, S. C.; Section 2A, American Cast Iron Pipe Co., Birmingham, Ala.; Section 3, Utility Contractor, Inc., South Bend, Ind.; valves, Michigan Valve & Foundry Co., 3631 Parkinson St., Detroit, Mich.; pumps, DeLaval Pump Co., Red Rock Bldg., Atlanta, Ga.; Wiedeman & Singleton, Engrs., Candler Bldg., Atlanta, Ga. 6-4

Tex., Gladewater—City, B. F. Phillips, Mayor, have preliminary plans for water works and sewers; F. J. Von Zuhlen, 802 Fair Bldg., Fort Worth, Consol. Engr.

Tex., Overton—City, plans water works and sewers; H. L. Thackwell, Jacksonville, Consol. Engr.

Tex., San Angelo—City, reported let contract to W. S. Thomson for construction Johnson Dam on North Concho at Oakes Street; contract based on unit prices for conc. excavation, etc.

Tex., Taylor—City, F. V. Swain, Supt., Water Works, receives bids June 23 for 150,000 gal. conc. reservoir, 40 ft. diameter, 15 ft. deep; Hawley, Freese & Nichols, 417 Capps Bldg., Fort Worth, Consol. Engr. 6-11

Tex., Vega—Asplund Construction Co., Fisk Bldg., Amarillo, reported has contract at \$20,000 for 13,610 std. c. i. pipe, tank tower, etc., for waterworks. 4-23

Va., Quantico—F. Fitzgerald Con. Co., 38 Chauncey St., Boston, Mass., reported, low bidder at \$8803 for conc. and brick pump house and conc. pump pit and piping at Marine Barracks for Bureau of Yards and Docks. 5-21

West Virginia—Delaware Valley Utilities Co., incorporated in May in Delaware, acquired 24 water companies in Pennsylvania, New Jersey, New York, Tennessee and West Virginia, from the National Water Works Corp., 11 Broadway, New York, including the Pure Water Co., and the Mountain States Utilities Corp., operating in West Virginia, and the Ingleside Water Co., operating in Tennessee.

Woodworking Plants

Fla., Zephyrhills—Zephyrhills Supply Co., acquired site for plant expansion; manufactures crate material and other wood products.

Ky., Livingston—See Miscellaneous Enterprises.

N. C., Liberty—Liberty Veneer Co., Inc., Cyrus Shoffner, Sec., rebuild rotary veneer plant; building 75x1725 ft., galvanized iron construction, cement floor; equipment \$25,000. See Want Section—Machinery and Supplies.

N. C., Mount Airy—Barbie Furniture Co., capital \$10,000, incorporated; A. B. Council, A. G. Webb.

N. C., North Wilkesboro—Pardue Brothers, Moravian Falls, has contract for 2-story, 50x140-ft. addition to plant of Key City Furniture Co., 506 B St. See Want Section—Machinery and Supplies.

Tex., Fort Worth—Hub Furniture Co., 1529 E. Broadway, increased capital \$215,000 to \$265,000.

Ala., Gadsden—Plant of Queen City Furniture Co. on First Ave.

Ark., Blytheville—R. D. Hughes Co.'s store; loss \$25,000.

Fla., Belleview—Store owned by E. E. Convers, Ocala, and building owned by C. O. Beck Estate, both occupied by O. M. Gale & Son; loss \$25,000.

Ky., Louisville—Hillerich & Bradshy Co.'s baseball bat and golf club plant; loss \$500,000.

La., New Orleans—Commercial properties owned by Tulane University Educational Endowment Fund, including Diana Hat Store, Peifer Millinery Store, Petit Monde Baby Shop, Burnstein Shoe and Ladies Wearing Shop of Woodward-Wight Co.; loss \$160,000.

Miss., Vaiden—Lumber mill of S. J. Peeler.

Mo., St. Louis—Dock, freight loading cranes, at terminal of Federal Barge Line, James J. Devereaux, Supt.

N. C., New Bern—Warehouse and docks used by Carolina Lines, Inc., owed by E. K. Bishop; loss \$25,000.

Okla., Oklahoma City—Three oil tanks near California and Kelham Aves. in the city oil

field, owned by Sun-Ray Pipe Line Co.; loss \$15,000.

S. C., Charleston—Yard of A. C. Tuxbury Lumber Co., Cooper River.

S. C., Greenville—Zinn Beck Bat Factory, Zenas C. Grier 511 Pettigree St., Owner; loss \$25,000.

Tenn., Lawrenceburg—Rural Sanitarium, 2 miles from Lawrenceburg.

Tenn., Memphis—Parker Hudson-Essex's sales rooms, 393-405 Monroe Ave., building owned by Marion Evans, Bank of Commerce & Trust Bldg., loss \$50,000.

Tex., Dallas—Power house of Ford Motor Co.'s assembly plant.

Tex., Marshall—Building corner of Houston Ave. & N. Fulton St., occupied by David Nash Co., owned by Dr. Galen Eads; loss \$30,000.

Va., Bristol—Eugene Lynch's building, State and 9th Sts., housing Corner Grocery Store and Buckels Brothers Feed Co.; loss \$40,000.

Va., Richmond—Virginia School Supply Co.'s building, J. Allen Belvin, Pres., 2000 W. Marshall St.; loss \$100,000.

W. Va., Hinton—Griffin Co.'s sausage plant; loss \$10,000.

W. Va., Martinsburg—Garage owned by D. N. MacGruder.

BUILDING NEWS
BUILDINGS PROPOSED

Bank and Office

Ga., Atlanta—Fulton National Bank soon let contract for branch bank, Peachtree Rd.; fireproof, limestone exterior, 32x100 ft. with 80x75-ft. brick store section to provide 3 stores; 1000 safety deposit boxes, counters; Pringle & Smith, Archts., Norris Bldg. 6-11

Tex., Corpus Christi—Central Power & Light Co., 110 N. Chaparral St., San Antonio, Julian B. Cross, receives bids July 1 for 2-story office bldg.; fireproof, 40x90 ft.; foundation for additional stories; terrazzo floors, 8-ft. American walnut wainscoting on first floor; floodlighting; 4 display windows; erect cottage upon completion of office bldg.; John M. Marriott, Archt., Frost Natl. Bank Bldg., San Antonio. 6-11

Churches

Md., Hancock—St. Thomas P. E. Church erect 1-story and basement brick parish house; A. J. Klinkhart, Archt., Kohler Bldg., Hagerstown.

Md., Baltimore—Petach Pikzozh Congregation, A. Rosen, Chmn., Bldg. Comm., 4707 Homer Ave., erect brick addition to synagogue, 5103 Denmore Ave.; 1 story and basement, 22x61 ft.; Saml. Smullian, Archt., 3721 Belle Ave.

N. C., Charlotte—St. Peters R. C. Church, Rev. Ambrose Gallagher, Pastor, hopes to start work within few months on second unit of \$400,000 bldg. program which will include \$175,000 church, \$30,000 rectory, \$52,000 auditorium and \$23,000 convent; auditorium seat 1000, convent accommodate 10.

Okla., Tulsa—Temple Israel, Nathan Gens, 1108 E. 21st St., has low bid at \$94,000 from Geo. Forner, 1617 S. St. Louis St., for synagogue; Donald McCormick, Archt., Atlas Life Bldg. 2-12

Tenn., Chattanooga—Wm. Crutchfield, Archt., First Natl. Bank Bldg., about completed plans for \$30,000 Marr Memorial Chapel, Signal Mountain, gift of Walter L. Marr; \$10,000 manse to be erected by community; work start in about 2 weeks; brick; chapel seat 300.

Va., Burgess Store—Fairfield Baptist Church, Rev. J. F. Stone, Pastor, erect bldg. to replace structure which collapsed.

City and County

Ga., Macon—Bibb County Bd. of Commrs. erect brick and stone trim convict camp; brick, conc. and steel, 2 stories and basement, T shape, 86x90.6 ft., conc. floors and foundation, built-up roof, cast stone, dumb waiters, tile flooring, metal doors, steel sash and trim, ventilators, \$25,000; dormitory and machine shop; Cecil C. Hays, Grand Bldg., and W. Elliott Dunwoody, Jr., 460 Broadway, Asso. Archts., both Macon; plans ready about June 20.

La., New Orleans—Following contractors estimating on Zengel, Ewing & Suburban markets, bids June 23 by City Purchasing Agt., Room 24, City Hall: Anzalone Construction & Supply Co., Balter Bldg.; H. W. Bond & Bro., 816 Howard Ave.; Caldwell Bros., 816 Howard; Lionel F. Favret, Louisiana Bldg.; Chas. Gilbert Construction Co., Amer. Bk. Bldg.; J. A. Petty & Sons, Inc., Audubon Bldg.; O. M. Gwin Construction Co., 3503 Fern St.; R. P. Farnsworth & Co., Maritime Bldg.; Alvin M. Fromherz, Q. & C. Bldg.; Wm. Wallace, Pere Marquette Bldg.; Sam Stone, Jr., & Co., Archts., Masonic Temple Bldg. 6-11

Md., Chevy Chase, Branch Washington, D. C.—Chevy Chase Fire Board, Wm. Hughes, Pres., receives bids June 20 for fire station; \$40,000, 78x36 ft. with 24x32-ft. wing, brick and rein. conc., fireproof; Ralph W. Berry, Archt.

Md., Cambridge—Dorchester County Bd. of Commrs. remodel and enlarge court house; \$75,000; brick and stone, 2 stories; fireproof conc. vaults; Wm. F. Stone, Archt., 2612 N. Charles St.; Henry Adams, Mech. Engr., Calvert Bldg.

Mo., Webster Groves, St. Louis—Webster Groves votes June 30 on \$100,000 bonds for city hall and fire engine house; Bedford limestone. Address Webster Groves City Council.

N. C., Waynesville—Haywood County Bd. of Commrs. selected Willard G. Rogers, 510 E. Blvd., and N. G. Rhodes, both Charlotte, as architects for \$230,000 court house and jail; fireproof, rein. conc., steel, brick and tile, stone trim, 3 stories, comp. roof, steam heat; plans approved. 5-28

Okla., Tulsa—City, Earl Logan, City Auditor, erect \$15,000 police sub-station and jail; 1 story and basement; Frank C. Walter, Archt., Central Bank Bldg.; G. J. Bowie, Contr., Daniels Bldg.

S. C., Beaufort—Beaufort County votes July 7 on \$70,000 bonds to remodel jail and erect court house.

Tex., Houston—City Secretary receives bids until June 17 for fire station, Henderson and Decatur Sts.; separate bids for mech. work and for elect. work; plans from office City Engineer. 5-7

Tex., Houston—City Council call for bids in about 2 weeks for \$10,000 shelter house, John T. Mason Park; Spanish type, 45x72 ft.

Va., Danville—City, C. L. Scott, Engr., voted \$150,000 auditorium-armory bonds; Bryant Heard, Archt., Masonic Temple Bldg. 5-14

Dwellings

Ala., Birmingham—J. Weldon Moon, Jr., 300 Ninth Court, West, erect frame residence, Montgomery Highway; 1 story, steam heat, comp. roof; 3-car garage; 4-room ser-

vants' house and stable; Bem Price, Archt., 1420 Comer Bldg.; completing plans.

Ala., Birmingham—Mrs. Geo. H. Stubbs, 1800 S. 12th Ave., erect brick veneer residence; 2 stories and basement, 105x24 ft., tile roof, 4 tile baths, steam heat; D. O. Whilldin, Archt., 515 N. 21st St.; about ready for bids.

D. C., Washington—Geo. S. White, 1412 I St., N. W., and Dallas B. Hays have permit for \$19,000 residence, 5339 32nd St., N. W.; brick, tile and stone, 2 stories.

D. C., Washington—Randolph L. Jennings, 726 14th St., N. W., erect \$24,000 residence, 1717 Poplar Lane, N. W., after plans by E. W. Capperman, 110 N. Seventh St., Richmond, Va.; brick and stone, 2 stories. 6-11

D. C., Washington—Jacobson Bros., 1616 K St., N. W., have permit for 2 brick dwellings, 5524-28 31st St., N. W.; 2 stories, \$12,000 each.

D. C., Washington—O. T. and M. A. Carr have permit for 2 brick, tile and frame dwellings, 4920-28 46th St., N. W.; 2 stories; total \$11,000.

D. C., Washington—Harvard Terrace Development Corp., 2905 11th St., N. W., has permit for 4 brick dwellings, 1725-31 Hobart St., N. W.; 2 stories; total \$24,000.

D. C., Washington—Jas. E. Colliflower, 1001 15th St., has low bid from E. A. Pesagno, 2301 Cathedral Ave., for residence, Kenwood, Md.; A. H. Sonneman, Archt., 2400 16th St., N. W. 6-4

Fla., Jacksonville—Arthur G. Cummer, 829 Riverside Ave., alter and erect addition to residence, \$38,000; Marsh & Saxelbye, Archts., Consolidated Bldg.

Ga., Atlanta—W. S. McDonald, 1 Collier Rd., has low bid from Christian & Bell, Red Rock Bldg., for residence; McDonald & Co., Archts-Engrs., Southeastern Trust Bldg. 6-4

Ga., Atlanta—W. D. Hall, Bolling Jones Bldg., erect bungalow, E. Clifton Rd., Druid Hills.

Ga., Atlanta—D. M. Ford, care Retail Credit Co., 90 Fairlie St., N. W., erect 2-story brick residence, Clifton Rd. near Ponce de Leon Ave., Druid Hills.

Ga., Mitchell—Dr. Oliphant Mitchell erect hollow tile and stucco residence; 1 story and basement, 6 rooms; F. Arthur Hazard, Archt., 2056 McDowell St., Augusta; about ready for bids.

Ky., Lexington—Atty. Clinton M. Harbison, 812 Trust Co. Bldg., erect \$10,000 residence, Winchester Rd.; brick, 2 stories.

La., New Orleans—Mrs. E. Gerner erect single raised frame residence, Cleveland Ave. near Cortez St.; rein. conc. foundation, slate roof, built-in features; Theo. L. Perrier, Archt., Maritime Bldg.; ready for bids in about 1 week.

Md., Baltimore—Davison Realty Co., subsidiary, Davison Chemical Co., John O. Benson, in charge, receiving bids for 8 dwellings in connection with development; plans by Office of Joseph Evans Sperry, Calvert Bldg.; English Colonial type, 16 ft. center to center, brick or stucco, steel sash, hardwood floors, built-up shingle and metal roof, hot water; probably unit heating and refrigeration; following contractors estimating: Davis Construction Co., 9 W. Chase St.; Geo. P. Mueller & Sons, 320 S. Conkling St.; W. E. Bickerton Construction Co., 515 Cathedral St.; Carl W. Schmidt, Hearst Tower Bldg.; Morrow Bros., Fidelity Bldg.; Sears, Roebuck & Co., 810 N. Charles St., all Baltimore; Minter Homes Corp., 7030 Belclare Rd., Dundalk, Baltimore. 2-27-30

Mo., Joplin—L. Grinstead, Prop., Grinstead Market, 3128 Main St., erect Spanish type residence, adjoining Redings Mill.

Mo., St. Louis—Meier & Comfort, Clayton, erect dwelling, Clermont Park; \$10,000, 35x30 ft.; also \$8500 dwelling, Exermont Park; 35x25 ft.; both brick, 2 stories.

N. C., Winston-Salem—Mrs. J. B. Dyer, 665 N. Spring St., erect \$60,000 residence, Stratford Rd. near Kent Rd.; 24 rooms, 78x121 ft., 2 stories, masonry and wood, slate roof.

Tex., Pearsall—Claude McCauley, Director, City Central Bank & Trust Co., San Antonio, plans summer residence.

Va., Warren—Amory S. Carhart erect conc. brick and rubble stone residence; slate roof, millwork, hot water heat; Bottomley, Wagner & White, Archts., 60 E. 42nd St., New York.

Government and State

Arkansas—U. S. Engineer Office, McCall Bldg., Memphis, Tenn., erect \$150,000 headquarters bldg. on Arkansas side of Mississippi River, opposite Memphis; 3 stories. Ark., Stuttgart—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., probably receive bids about July 1 for

\$95,000 Federal building; brick and concrete. 11-13

D. C., Washington—Architect of The Capitol, David Lynn, will have plans ready by July 15, bids to be opened Sept. 2, for \$9,749,000 U. S. Supreme Court Bldg., E. Capitol St., Maryland Ave., First and Second St.; Corinthian type, 385x304 ft., central section 4 stories, west front 3 stories and remaining sections lower; fireproof, stone, brick; Supreme Court room 94 ft. square, about 30 ft. high; inclined driveway from basement, elevators, ventilation system, public and private corridors, law libraries on second and third floors; Cass Gilbert, Archt., 244 Madison Ave., New York. 3-19

D. C., Washington—Navy Dept., Bureau of Yards and Docks, has low bid at \$9875 from H. W. Cord Co., Inc., Washington, for extension of Marine Corps barracks. 6-4

D. C., Washington—District Commrs., Dist. Bldg., has low bid at \$9997 from Industrial Engineering & Construction Co., Northport, L. I., for sheds and facilities at Eastern and Western markets. 5-28

D. C., Washington—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., having plans drawn by Graham, Anderson, Probst & White, Archts., 80 E. Jackson Blvd., Chicago, Ill., for remodeling and enlarging post office; \$4,000,000 appropriation available.

D. C., Washington—District Commrs., A. L. Harris, Municipal Archt., Dist. Bldg., selected Dan Moran, of Moran & Proctor, 342 Madison Ave., New York, as conslt. engineer for \$10,000,000 Municipal Center; Edw. C. Downs, 1840 Third St., N. W.; Nathan C. Wyeth, 16 Jackson Place, N. W.; Fred V. Murphy, 1413 H St., N. W.; Geo. Burnap, 1741 Rhode Island Ave., N. W.; E. W. Donn, Jr., 1920 K St., N. W.; Edwin T. Pairo, 31 Rhode Island Ave., N. W.; E. S. Menke, etc., architects. 11-7-29

D. C., Washington—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., engaged Holabird & Root, 333 N. Michigan Ave., Chicago, Ill., and Harvey Wiley Corbett, 130 W. 42nd St., New York, to make study as a basis for specific legislation by Congress for constr. of proposed War and Navy Bldg. 12-4-30

Fla., Key West—Prospective estimators on \$525,000 post office, court house, custom house, etc., bids June 26 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.; Chalker & Lund, Inc., Harvey Bldg., West Palm Beach, Fla.; M. R. Harrison Construction Co., Key West, Fla.; Algernon Blair, First Natl. Bk. Bldg.; Samford Bros., Inc., 301 Washington Ave., both Montgomery, Ala.; Willis, Taylor & Mafera, Corn Exch. Bk. Bldg., New York; Wm. MacDonald Construction Co., Synd. Trust Bldg., St. Louis, Mo.; St. John Co., 629 Seventh St., Miami, Fla.; Grahn Construction Co., Red Rock Bldg., Atlanta, Ga.; John Largura & Co., 3672 Adams St., Gary, Ind.; Murphy Pound, Box 422, Columbus, Ga.; M. R. Harrison Construction Co., Miami, Fla. 6-11

Ga., Fort Benning—Constructing Quartermaster opens bids July 9 for medical detachment barracks; \$75,000; rein. conc., brick and tile, 2 stories and basement, 49x230 ft., conc. terrazzo and comp. floors, conc. foundation, tile roof; prospective estimators follow: Williams Lumber Co., Inc., 13th St.; Murphy Pound, Hill Bldg.; Walker Electrical Co., 111 12th St., all Columbus, Ga.; Rogers & Leventhal, Inc., 822 E. 11th St., Chattanooga, Tenn.; Algernon Blair, First Natl. Bank Bldg.; Samford Bros., Inc., 301 Washington Ave., both Montgomery, Ala.; Grahn Construction Co., Red Rock Bldg.; A. K. Adams & Co., 542 Plum St., both Atlanta, Ga.; Batson-Cook Co., Inc., West Point, Ga.

Ga., Madison—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids in duplicate July 7 for post office, etc.; drawings from office Supvg. Archt.

Ga., Rossville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids in duplicate July 6 for post office, etc.; \$75,000 to \$100,000; drawings from office Supvg. Archt. 4-23

Ga., Sandersville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids in duplicate July 7 for post office, etc.; drawings from office Supvg. Archt. 2-19

Ga., Toccoa—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids July 6 for post office, etc.; drawings from office Supvg. Archt.

Ky., Lexington—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., selected Churchill & Gillig, Fayette Bank Bldg., Lexington, as architects for \$761,000 court house and post office, Limestone and Barr Sts. 4-10-30

Ky., Louisville—Treasury Dept., Jas. A.

Wetmore, Act. Supvg. Archt., Washington, receives bids June 22 (previously noted June 1) for \$2,985,000 post office, court house and custom house; additional prospective estimators: James I. Barnes, Logansport, Ind.; Walbridge-Aldinger Co., 1300 Buhl Bldg., Detroit, Mich.; Spencer White & Prentiss, Inc., 10 E. 40th St., New York. 5-21

La., New Orleans—Department of Justice, Sanford Bates, Director, Bureau of Prisons, Tower Bldg., Washington, D. C., receives bids until July 2 to convert old Mint bldg. for Federal prison; \$100,000; accommodate 300; work includes cement work, drains, struct. steel, pipe rails, cast iron columns, conc. work, orna. iron, carpentry, millwork, sheet metal work, glazing, asphalt tile floors, plastering, metal partitions, painting, brick and tile work, dampproofing, hardware, plumbing, steam heating, boiler and stack, oil burning equipment, elect. work, including flood lighting systems, etc.; Diboll & Owen, Ltd., Archt., Canal Bk. Bldg., New Orleans; following contractors estimating: H. W. Bond & Bros., 816 Howard Ave.; Gervais F. Favrot, Balter Bldg.; J. A. Petty & Sons, Inc., Audubon Bldg.; Lionel F. Favret, Louisiana Bldg.; O. M. Gwin Construction Co., 3503 Fern St.; H. Pratt Farnsworth, Canal Bk. Bldg.; John Riess, N. O. Bk. Bldg.; John A. O'Brien, Louisiana Bldg.; J. V. & R. T. Burkes, Inc., Amer. Bank Bldg.; Geary-Oakes Co., Q. & C. Bldg.; Chas. Gibert Construction Co., Inc., Amer. Bk. Bldg.; Geo. J. Glover Co., Inc., Whitney Bk. Bldg.; Caldwell Bros., 816 Howard Ave.; H. A. Palfelt, Balter Bldg., all New Orleans; Geo. Griffiths Construction Co., 1123 Arcade Bldg., St. Louis, Mo. 6-11

La., Mansfield—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., has low bid at \$52,460 from Algernon Blair, First Natl. Bank Bldg., Montgomery, Ala., for post office. 6-4

La., Shreveport—S. J. Harman, 118 Milam St., expend \$8000 to \$10,000 to remodel bldg., Crockett and Marshall Sts., for temporary post office.

Ga., Thomson—Treasury Dept., Jas. A. Wetmore, Acting Supvg. Archt., Washington, D. C., opens bids in duplicate July 7 for post office, etc.; drawings from office Supvg. Archt.

Md., Chestertown—Maryland National Guard, Adjt.-Gen. Miltotn A. Reckord, Armory Place and Howard St., Baltimore, opens bids June 25 for brick and stone trim armory; 1 story, about \$50,000; Wm. Gordon Beecher, Archt., 12 E. Pleasant St., Baltimore; following contractors estimating: Consolidated Engineering Co., 20 E. Franklin St.; Morrow Bros., Fidelity Bldg.; North-Eastern Construction Co., 6 W. Madison St.; L. L. Chamber, Inc., 26th St. and Roland Ave.; Tase-Norris Co., 903 Cathedral St.; C. W. Schmidt, Hearst Tower Bldg., all Baltimore; Hastings & Parsons, Salisbury; Farmer & Comegy, Easton; Walter Pippen, Chestertown; Pilchard Contracting Co., Pocomoke City. 6-11

Md., Cascade—U. S. Properties and Disbursing Officer for Maryland opens bids June 29 for 5 baths and latrine bldgs. and extension of elect. system, Camp Ritchie; information on application.

Md., Cumberland—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., having plans drawn by R. Holt Hitchens, Perrin Bldg., Cumberland, for post office and court house; \$640,000 appropriation includes site; Clyde N. & Nelson Friz, Lexington Bldg., const. archts., Baltimore, Md. 2-19

Md., Hagerstown—State Bd. of Welfare, Robt. D. Case, Sec., Union Trust Bldg., Baltimore, opens bids June 23 for temporary frame bldgs. for construction activities at site of proposed penitentiary near Hagerstown; 1 dormitory, 1 mess hall and 1 power house; separate bids for heating; Buckler & Fenhagen, 323 N. Charles St., and Wm. H. Emory, Balto. Trust Bldg., architects, both Baltimore; J. B. Ferguson & Co., 39 W. Washington St., Hagerstown, and Whitman, Requardt & Smith, Balto. Trust Bldg., Baltimore, engineers; following contractors estimating: Price Construction Co., Maryland Trust Bldg.; Sidney McCall, 3404 Marmon Ave.; Consolidated Engineering Co., Inc., 20 E. Franklin St.; L. L. Chambers, Inc., 36th St. and Roland Ave.; Davis Constr. Co., 9 W. Chase St.; T. D. Claiborne Co., Inc., Garrett Bldg.; Tase-Norris Co., Inc., 903 Cathedral St.; Thos. Hicks & Sons, Inc., 106 W. Madison St.; M. A. Long Co., 10 W. Chase St.; Frairie Bros., 19 W. Franklin St.; Lacchi Constr. Co., Munsey Bldg.; North-Eastern Construction Co., 6 W. Madison St., all Baltimore; J. B. Ferguson & Co., 39 W. Washington St.; Aaron Reeher, 7 Magnolia Ave., both Hagerstown. 4-9

North Carolina—U. S. Coast Guard Headquarters, Washington, D. C., opens bids June 26 for 2-story frame dwelling, 30x45 ft., with conc. foundation, elect. lights, water

supply, heating, plumbing, sanitary system, excavations, filling and grading for Oak Island Coast Guard Station.

N. C., Wadesboro—Treasury Dept., Jas. A. Wetmore, Act. Supv. Archt., Washington, D. C., selected site for post office.

Tex., Fort Worth—Prospective estimators on \$1,240,000 post office, bids July 2 by Treasury Dept., Jas. A. Wetmore, Act. Supv. Archt., Washington, D. C.; Schuler & McDonald, 1723 Webster St., Oakland, Calif.; R. P. Farnsworth & Co., Inc., Maritime Bldg., New Orleans, La.; Jas. I. Barnes, Logansport, Ind.; Great Lakes Construction Co., 333 N. Michigan Ave.; Ralph Sollitt & Sons Construction Co., 228 N. LaSalle St., both Chicago, Ill.; Robt. E. McKee, 1900 Texas St., El Paso, Tex.; Murch Bros. Construction Co., Ry. Exch. Bldg., St. Louis, Mo.; Christy-Dolph Construction Co.; Bellows-Maclay Construction Co.; P. O'B. Montgomery, all Construction Bldg., Dallas, Tex.; Yeager & Sons, Danville, Ill. 6-11

Tex., Kingsville—Treasury Dept., Jas. A. Wetmore, Act. Supv. Archt., Washington, D. C., selected site for post office.

Tex., Randolph Field—Constructing Quartermaster opens bids June 22 for screens in 5 250-men barracks bldgs., guard house, post bakery, field and company officers' quarters, non-commissioned officers' quarters, etc.

Va., Hampton Roads, Norfolk—Navy Dept., Bureau of Yards and Docks, Washington, D. C., reported, receiving bids for administration bldg., Naval Operating Base; brick, conc. foundation and frame, slate and built-up roof; Dept. advises indefinitely postponed.

Va., Mount Vernon—United States Dept. of Agriculture, Bureau of Public Roads, Washington, D. C., has low bid at \$66,850 from J. W. Kilgore, 127 Clarendon Ave., Clarendon, Va., for terminal bldg., including inn and restaurant, for Mount Vernon Memorial Highway; E. W. Donn, Jr., Archt., 1920 K St., Washington; Gilmore G. Clarke, Landscape Archt., Pondfield Rd., New York. 6-4

Hospitals, Sanitariums, Etc.

Ky., Louisville—Treasury Dept., Jas. A. Wetmore, Act. Supv. Archt., Washington, D. C., selected D. X. Murphy & Bro., Louisville Trust Bldg., Louisville, as architects for Marine Hospital.

Miss., Jackson—State Hospital Removal, Improvement and Land Sale Comsn., New Capitol, Jackson, receives bids until June 26 for Negro Group No. 2 for \$5,000,000 Mississippi Insane Hospital; 6 patients' cottages, Type B, Nos. 3 and 4, Type A, Nos. 1, 2, 3 and 4; infirmary bldgs. Nos. 1 and 2; attendants' cottages Nos. 1 and 2; elect. power distribution for negro groups; plans from N. W. Overstreet, Archt., Standard Life Bldg., Jackson; plans on file in office Comsn. secretary, fourth floor, New Capitol; Vinson B. Smith, Advisory Archt., Gulfport; following contractors estimating: Beckelheimer & Small; Oden & Glenn, Carter Bldg., both Hattiesburg, Miss.; Lockard & Vaughan, Kidder Bldg., Meridian, Miss.; M. T. Reed Construction Co., Belzoni; W. J. McGee & Son, Lamar Bldg.; I. C. Garber, Standard Life Bldg., both Jackson; W. C. Salley, Ouachita Natl. Bank Bldg., Monroe, La.; G. C. Kershaw Contracting Co., Woodward Bldg., Birmingham, Ala.; Jernigan Construction Co., Leland, Miss.; Currie & Corley, Raleigh, Miss. 6-11

N. C., Raleigh—Forsyth County Bd. of Commrs. may appropriate \$25,000 or \$30,000 for negro tuberculosis unit, Forsyth Tuberculosis Hospital.

S. C., Abbeville—Abbeville County Memorial Hospital remodel structure damaged by fire; \$30,000; fireproof; new interior; X-ray room; Chas. Wm. Fant, Archt., Anderson.

Tex., Abilene—State Bd. of Control, Austin, has low bid from Dunlap & Cox for men's dormitory, Abilene State Hospital; David S. Castle Co., Archt.-Engr., Alexander Bldg., both Abilene. 6-4

Tex., San Antonio—State Bd. of Control, Claude D. Teer, Chmn., Austin, considers erecting \$100,000 dormitory for Mexicans during 1931 at San Antonio State Hospital; also \$30,000 employees' dormitory, conc. porches to present bldgs., \$30,000, and \$20,000 laundry equipment and \$15,000 kitchen and dining room equipment during 1931 and 1932; Legislature passed appropriation bill.

Va., Lynchburg—Lynchburg Hospital, Dr. Elisha Barksdale, member of Staff, requests City Council, R. W. B. Hart, City Mgr., to erect \$85,000 50-bed addition.

W. Va., Huntington—Additional prospective estimators on \$700,000 U. S. Veterans Hospital, bids in triplicate June 23 by U. S. Veterans Bureau, Arlington Bldg., Washington, D. C.; Texas Concrete Chimney Co., 1613 Scott St., Houston, Tex.; Modern Engineering Co., 107 E. Pleasant St.; Henry L. Maas & Sons, Inc., 1119 Ensor St., both Baltimore, Md.; J. A. Redmon Co., 227 N. Broadway; Warner Service Co., 102 W. Clinch

St.; Tennessee Plumbing & Electric Co., Inc., 215 Deaderick Bldg., all Knoxville, Tenn.; Thos. J. Sheehan Co., 2233 Olive St., St. Louis, Mo.; A. W. Kutsche & Co., 2111 Woodward Ave., Detroit, Mich.; Swann Bros., 1815 Third Ave., Huntington, W. Va.; James C. Miller Co., Campbellsville, Ky.; Abell Elevator Co., Louisville, Ky.; W. M. Clark & Co., New Castle, Pa.; Miller Electric Co., 487 Riverside Ave., Jacksonville, Fla.; Toll Electric Co., care U. S. Veterans Hospital, Memphis, Tenn.; Jones-Comett Electric Co., Welch, W. Va.; H. R. Hemmecke, Inc., 221 S. New Jersey St., Indianapolis, Ind.; General Refrigeration Sale Co., Beloit, Wis.; Chas. J. McDonald, Worcester, Mass.; O'Pry Heating & Plumbing Co., 510 Walton Bldg., Atlanta, Ga.; M. W. Kellogg Co., 225 Broadway, New York; W. P. Thurston Co., Richmond, Va.; Chas. H. Shook, Inc., Third Natl. Bldg., Dayton, O.; Geo. W. Kane, 228 Jefferson-Standard Bldg., Greensboro, N. C.; Brock Electrical Engineering Co., 235 E. Main St., Lexington, Ky.; Pennsylvania Engineering Co., 1119 N. Howard St., Philadelphia, Pa.; Whitmore Electric Co., 3003 Hawthorne Ave., Richmond, Va.; Kelso-Wagner Co., Dayton, O.; H. E. Neuman Co., 1425 Chapline St., Wheeling, W. Va.; E. H. Latham Co., 447 Neilston St., Columbus, O.; Wadeford Electric Co., 205 Wacker Drive, Chicago, Ill. 6-11

Hotels and Apartments

La., Baton Rouge—Carl Campbell, 821 Boyd Ave., let contract at \$11,612 to W. M. Day, for 2-story, 65x120 ft., hollow tile and stucco, 4-apartment building on Louisiana Terrace; Jones, Roessle, Olschner, Archts., Maison Blanche Bldg., New Orleans, and Raymond Bldg., Baton Rouge. 6-11

La., Opelousas—Hotel Waldorf having plans prepared by E. Leo Ball, Haas Bldg., Alexandria, for \$75,000 brick and conc., 30-room addition; 5 stores on ground floor; remodel restaurant, construct lobby.

Tex., Harlingen—G. C. Horne plans to begin work about July 15 on \$50,000, 2-story, 22-room apartment, Van Buren and 8th Sts.; L. C. Lowe, Archt.

Miscellaneous

D. C., Washington—St. Francis Monastery, Harwood Road, N. E., make improvements and erect additions to monastery; 3 stories, 45x75 ft., brick, tile roof, vapor heat; Murphy & Olmsted, Archts., 1413 H St., N. W.; bids in.

Florida (Walton and Okaloosa Counties)—J. M. Hodgskin, Valparaiso, and 50 Church St., New York, representative of Eastern capitalists, reported, planning \$2,000,000 international clubhouse, polo field, private race tracks, hunting preserves, etc., in connection with development of 70,000-acre tract in Northwest Florida along shores of Choctawhatchee Bay and Gulf of Mexico in Walton and Okaloosa counties; 52,000 acres to be devoted to requirements of club; this tract will include Basin Bayou and Rocky Bayou Peninsular.

Fla., Hialeah—Miami Jockey Club, Joseph H. Widener, Pres., Land Title Bldg., Philadelphia, Pa., and Palm Beach, selected Smith & Riddle, West Palm Beach, as supervising engineers for \$1,000,000 improvements at Hialeah Park racing track; enlarge grandstand, remodel clubhouse, addition of steeplechase, lengthen and widen track, erect 24 stables; L. W. Geisler, Archt., 19 Via Parigi, Palm Beach. 6-11

Ga., Carrollton—Carrollton Country Club, G. C. Cook, having plans prepared by A. F. N. Everett, 161 Spring St., N. W., for one-story and basement, frame club building; wood and tile floors.

Miss., Columbia—Juan G. Landry, Archt., Conn Bldg., Hattiesburg, receives bids June 25 for \$12,000, 2-story, 44x55 ft., brick veneer funeral home for Lampton Company to replace previously burned structure. 4-2

Mo., St. Louis—Hoener, Baum & Froese, Archts., 3605 Laclede Ave., advise that plans for addition to Engineers Club of St. Louis will be started in about year. 6-11

S. C., Greenwood—Railway Express Agency, Inc., E. A. Murphy, Supt. of Bldgs., 325 Mitchell St., S. W., Atlanta, Ga., erect one-story, 75x27 ft., brick, struc. steel express building; comp. roof, steam heat, stone trim; bids in.

Tex., Amarillo—Tri-State Fair, Wilbur C. Hawks, Mgr., erect \$75,000 International Coliseum; 540x320 ft.; towers 100 ft. tall; seat 20,000 people; Lamella roof, arena 400x180 ft.

Tex., New Braunfels—Golf Club, care E. A. Elband, ready for bids in few days for \$10,000, one-story, prob. native stone, clubhouse; Jeremiah Schmidt, Archt., New Braunfels; J. W. Beretta Engineers, Inc., 1203 Natl. Bank of Commerce Bldg., Engrs., San Antonio. 5-7

Tex., San Antonio—J. T. Duran, 328 E. Josephine St., has low bid at \$23,980 from Ed. W. Oeffinger, 710 Avenue A, for one-story and part basement, 50x70 ft., rein. conc., tile and stucco restaurant, Josephine St. and Avenue A; Olin Boese, Archt., 803 Builders Exchange Bldg.; W. E. Simpson Co., Engr., 942 Milam Bldg. 6-4

Va., Newport News—Railway Express Agency, Inc., E. A. Murphy, Supt. of Bldgs., 325 Mitchell St., S. W., Atlanta, Ga., having plans prepared for \$20,000, rein. conc., brick, struc. steel and tile express building; comp. roof.

Railways Stations, Sheds, Etc.

Mo., St. Louis—Midwest Industrial Development Co., Shell Bldg., holding company for Illinois Terminal R. R. System, E. S. Hight, Ch. Engr., Chicago, Ill., and A. P. Titus, V.P.-Gen. Mgr., Shell Bldg., St. Louis, reported, has low bid from Selden-Breck Construction Co., Pullerton Bldg., for 19-story building for office and loft space, High St. near Morgan St.; \$3,100,000, 284x298 ft., brick and conc., comp. pitch and gravel roof, steam heat, unit system; Mauran, Russell & Crowell, Archts., Chemical Bldg.; J. A. Hooke, Conslt. Engr., Buder Bldg. 5-28

Tex., Cleburne—Gulf, Colorado & Santa Fe R. R., F. Merritt, Ch. Engr., Galveston, erect storehouse.

Schools

Ala., Birmingham—Bd. of Trustees, State Training School for Girls, plans dormitory.

Ala., Tuscaloosa—Alpha Delta Pi, University of Alabama, has low bid from J. O. Holloman, Tuscaloosa, for 2-story and basement, 72x35 ft., brick veneer and frame sorority house; Miller & Martin, Archts., 911 Title Guarantee Bldg., Birmingham.

Ark., Conway—Hendrix College, Dr. J. H. Reynolds, Pres., plans \$10,000 woman's building.

D. C., Washington—Columbia Preparatory School for Boys, care Simon Freedman, 911 Seventh St., erect one-story, brick or stone, 40x75 ft., 4-room addition, rear of 1443-45 Rhode Island Ave., N. W.; Edw. St. Cyr Barrington, Archt., 1336 New York Ave., taking sub-bids.

D. C., Washington—District Commrs., Roland M. Brennan, Ch. Engr. Dept., receives bids June 29 for additions and alterations to Woodridge School, Carlton and Central Aves., N. E.; brick, waterproofing, built-up roof, asphalt mastic flooring, struc. metal, slate blackboards, metal toilet partitions, slate, tile, terrazzo, comp. floors; same contractors estimating on this project as on Janney School; A. L. Harris, Municipal Archt.

D. C., Washington—Following contractors estimating on addition and alterations to Janney School, Albermarle St. between 41st and 42nd Sts., N. W., for District Commrs., Roland M. Brennan, Ch. Engr. Dept., bids June 25; W. E. Mooney, 2539 Pennsylvania Ave.; T. T. Taylor Co., Commercial Natl. Bank Bldg.; H. W. Cord, 1003 K St. N. W.; Fidelity Construction Co., 1218 Randolph St., N. W.; Loudon-Rust Co., 1406 G St. N. W.; all Washington; North-Eastern Construction Co., 6 W. Madison St., Baltimore, Md.; W. P. Rose, Goldsboro, N. C.; Chas. S. Barnett, Inc., 47th St. and Springfield Ave., Philadelphia, Pa.; 2 stories, brick, waterproofing, copper and tin roof, asphalt mastic flooring, hardware, comp. tile floors, slate, tile and terrazzo, hollow tile, cut stone, struc. metal; A. L. Harris, Municipal Archt.

Fla., Griffin—Polk County Bd. of Public Instruction, Hugh W. Wear, Chmn., Bartow, erect \$15,000, 1-story and basement, 6-classroom and auditorium school; Arch Holsinger, Archt., Courthouse, Bartow; bids in.

Fla., Tallahassee—State Bd. of Control, P. K. Yonge, Chmn., soon ready for bids for \$50,000 training school for A. & M. College for Negroes; plans by Rudolph Weaver, Board Archt., University of Florida, Gainesville. 3-5

Ga., Baconton—Baconton Consolidated School Dist. plans vote on \$30,000 bonds for school building; plans prob. by State Dept. of Education, Capitol Square, Atlanta. 4-9

Ga., Carrollton—Bd. of Education, W. F. Hallum, Chmn., plans to start work by July 1 on one-story and basement, 8-room and auditorium elementary school.

Ga., Decatur—Agnes Scott College, Dr. J. R. McCain, Pres., announced that campaign for \$1,500,000 for development has nearly been completed; principal expenditures listed as follows: Buttrick Hall, new administration-recitation building, \$305,000; steam plant and laundry, \$125,000; endowment increase, \$235,000; driveways, walks, landscaping and shrubbery, \$35,000; underground wiring and whiteway lighting, \$15,000; additional land and improvements, \$130,000; remodeling and improving buildings, \$23,000; permanent equipment, \$20,000. 9-23

Ga., Macon—Bibb County Bd. of Comms. soon ready for bids for 2-story and basement, brick dormitory and machine shop; stone trim, comp. roof; plans by Cecil C. Hays, Grand Bldg., and W. Elliott Dunwoody, Jr., 460 Broadway.

Ga., Rome—Following contractors estimating on \$20,000 one-story and basement, 172x55 ft., brick, 8-classroom Eighth Ward elementary school, bids June 23 by City. Sam King, Mgr., J. F. DuPree & Son; Chas. Blackstock; B. F. Camp & Son; W. P. Bradfield; C. M. Alexander; J. A. Formby, all Rome; Lockwood & Poundstone, Archts., Marietta Bldg., Atlanta. 6-11

Ky., Bowling Green—Western State Teachers' College Bd. of Regents ready for bids in July for 120x60 ft. swimming pool; also erect president's residence; Brinton B. Davis, Archt., Columbia Bldg., Louisville.

Ky., Frankfort—Kentucky State Industrial College having plans prepared by Churchill & Gillig, Fayette Bank Bldg., Lexington, for \$22,000, brick gymnasium.

La., Lake Charles—Calcasieu Parish School Bd., H. A. Norton, Supt., receives bids July 7 for rebuilding Lagrange High School, recently noted burned; 2 stories, brick; separate bids on heating and plumbing; Livey & Wiedemann, Archts., San Jacinto Life Bldg., Beaumont, Tex. 6-11

La., Lake Charles—Calcasieu Parish School Bd., H. A. Norton, Sec., receives bids July 7 for repairs to following schools: (1) Repairing or re-roofing roofs of English Bayou, Dequincy elementary, Dequincy primary, Vinton, Sulphur and Starks elementary schools; (2) addition room and bathroom at Starks teacherage; (3) repainting English Bayou, Edgerly, Vinton, Westlake and Starks schools; (4) replacing plumbing system in Vinton elementary school; separates bids on each item and for each school in each item; plans from Mr. Norton.

La., New Orleans—St. Joseph's Academy, Ursuline and Galvez Sts., soon call for bids for one-story, 70x32 ft. building with two wings each one-story, 25x30 ft.; brick, fireproof, 12 bedrooms, refectory, kitchen and laundry; slate roof, terrazzo and wood floors, steam heat; Diboll & Owen, Archts., Canal Bank Bldg.

La., Slidell—St. Tammany Parish School Bd., Covington, having plans prepared by Wm. T. Nolan, Canal Bank Bldg., New Orleans, for improvements to 3-story, brick grammar school, including conc. work, masonry, carpentry, sheet metal work, comp. roof, millwork, painting, plastering, glazing, plumbing, electric wiring.

Md., Annapolis—Bureau of Yards and Docks, Navy Dept., A. L. Parson, Ch., Washington, D. C., receives bids June 24 for alterations to heating plant and heating systems in buildings at Naval Academy (radio station), including oil burning, pumping and heating equipment, steam and oil water heaters, 8,000-gal. fuel oil storage tanks, motor-driven vacuum pump, power distributing panel, cables, wires and conduits, piping systems and accessories for equipment; specification No. 6537 and accompanying drawings obtained upon application to Bureau or to Supt., Naval Academy; following contractors estimating: W. B. Tardy, Knickerbocker Bldg.; Crane Co., 1225 Eye St., N. W.; Keystone Heating & Equipment Co., all Washington; McCoy & Kirtland, 25 W. Mt. Royal Ave., Baltimore; Columbia Engineering & Contracting Co., 404 Broadway, New York.

Md., Baltimore—Following contractors estimating on \$150,000, brick, 8-classroom School No. 212, Garrett Heights, bids June 24 by Bd. of Awards, City Hall: Century Construction Co., 435 Hearst Tower Bldg.; W. E. Bickerton Construction Co., 515 Cathedral St.; Charles L. Stockhausen, Inc., 33 S. Gay St.; Mullan Contracting Co., 3945 Greenmount Ave.; D. M. Andrew Co., Sisson and 26th Sts.; H. L. Maas Sons Co., 119 Ensor St.; J. L. Robinson Co., 522 Park Ave.; P. C. Streett Construction Co., 404 St. Paul St.; Lacchi Construction Co., Munsey Bldg.; Owens & Sisco, Archts., Continental Bldg.; Herman Doeelman, Struc. Engr.; James Posey, Mech. Engr., both Baltimore Trust Bldg. 6-4

Md., Baltimore—Bd. of Public Improvement Comsn., H. J. Leimbach, Supvg. Engr., City Hall, plans schools at Hollins and Monroe Sts. and Mosher and Wheeler Sts.

Md., Baltimore—School Comms., Bureau of Maintenance, J. C. Siegel, 1230 E. 20th St., have low bid at \$16,164 from Joseph P. Foster & Sons, 224 N. Greene St., for plumbing and heating, School No. 1-A; also have low bids for school repairs as follows: Contract E-32-31, painting at School No. 111, 1754, and Cont. E-39-31, painting at School No. 51, \$3341, Pamfili Contracting Co., 305 N. Greene St.; Cont. E-40-31, painting at Schools Nos. 49, 64, 81, 112, 209, \$8350, Sline & Son, 221 W. Center St.; Cont. E-41-31, painting Schools Nos. 31, 32, 37, 129,

212, Preisig, Inc., 1321 N. Water St.; Cont. E-29-31, electric work, Schools Nos. 1, 1A, 2, 13, 40, 47A, 52, 112, 156, 158, 211, 212, 227A, 227B, 293, 49, \$17,250, Hurwitz Electric Co., 2442 Lakeview Ave.

Md., Baltimore—Bd. of Public Improvement Comsn., H. J. Leimbach, Supvg. Engr., City Hall, having plans prepared by Wm. F. Stone, 2612 N. Charles St., for school for colored handicapped children, Franklin and Schroeder Sts.; brick and stone; Van Rensselaer Saxe, Struc. Engr., 217 N. Calvert St.; Henry Adams, Inc., Mech. Engr., Calvert Bldg.; prob. call for bids this summer. 3-11

Md., Baltimore—Bd. of Awards receives separate bids June 24, in duplicate, at office City Register, City Hall, for furnishing supplies and equipment and other materials for automobile and machine shops for Dept. of Education; specifications at office Asst. Supt. in charge of Business Division of Dept. of Education, 1230 E. 20th St.; bids same date, in duplicate, for improving area of Brehm's Lane School; drawings at office H. J. Leimbach, Supvg. Engr., Public Improvement Comsn., 324 City Hall.

Md., Baltimore—Bd. of Awards, City Hall, has low bid at \$16,767 from L. J. McCourt, 861 Greenmount Ave., for improving area of Highlandtown School, Foster Ave. and Rappolla St.; low bid at \$17,922 from C. J. Spielman, 1929 Annapolis Road, for improving area around Glenmount School.

Md., Westminster—Western Maryland College, Rev. Dr. A. N. Ward, Pres., has tentative plans for building program within next three years; plans call for seven buildings including dormitories for boys and girls, gymnasium, religious education building and social-religious hall; three buildings are needed within next two years.

Miss., Oxford—Lafayette County School Bd., D. T. Keel, Sec., receives bids June 20 for boys' dormitory and classroom for Agricultural High School; plans from County Supt. of Education.

Miss., Sebastopol—Sebastopol Consolidated Dist. School Bd., bids at office Scott County Supt. of Education, Forest, for school annex and teachers' home; plans from L. L. Anthony, Sec., School Bd., Sebastopol, or office Supt. of Education, Forest.

Miss., Sturgis—Sturgis Consolidated School Dist., D. B. Horton, Sec., School Bd., having plans prepared by Frank P. Gates Co., 908-10 New Merchants Bank Bldg., Jackson, for one-story, 90x130 ft., brick high and grammar school; 17 classrooms and auditorium to seat 450 people; \$30,000 bonds voted. 6-4

Mo., Branson—Bd. of Education, I. M. Thompson, sec., erect \$25,000, one- and two-story, 55x100 ft., 2-story and basement, brick and rein. conc., semi-fireproof high school; wood floors, comp. roof, cast stone, hardwood floors, plaster board, built-up flat roof, hollow tile, ventilators; comp. blackboards; Heckenlively & Mark, Archts.-Engrs., 504 Landers Bldg., Springfield; election June 20 on bonds. 6-11

Miss., Saucier—Saucier Consolidated School Dist. voted \$20,000 school building bonds.

Mo., Springfield—Dr. Roy Ellis, Pres., Southwest Missouri State Teachers College, advises that the Governor has been obliged to withhold for present funds for fireproof vault and improvements to administration building. 5-14

N. C., Greensboro—Alumnae Assn. of North Carolina College for Women, Mrs. Julius W. Cone, Chmn., Bldg. Comm., soon break ground for \$100,000 building.

N. C., Gastonia—Archbishop Athenagoras of Greek Orthodox Church, 273 Elm St., Astoria, Long Island, New York, advises that they have no definite plans regarding Linwood property. 6-11

Okla., Duncan—City plans election about Oct. 1 on \$180,000 bonds for high school and municipal auditorium; C. R. Davis, Supt. of Schools. 5-28

S. C., Columbia—School Bd. receives bids June 26 for \$20,000, 6-room school in Camp Fornance section; brick and frame; plans at office James B. Arquhart, Archt., 606 Central Union Bldg.

S. C., Rock Hill—Winthrop College, Dr. James P. Kinard, Pres., receives bids July 2 for \$35,000, 2-story and basement, brick and tile addition to dining hall; stone trim, comp. roof; plans and specifications at offices Edward & Sayward, Archts., 101 Marietta St., Atlanta, Ga., and offices of Builders' Exchanges at Atlanta, Ga., Columbia, S. C., and Charlotte, N. C., and at office Dr. Kinard.

Tenn., Fountain City—Knox County Bd. of Education, W. W. Morris, Supt., Knoxville, ready for bids on or about Aug. 15 for 35-room Central High School; Baumann & Baumann, Archts., 815 Market St., Knoxville.

Tex., Brownsville—Brownsville Ind. School

Dist. votes June 29 on \$80,000 bonds for two 6- or 8-room elementary schools and improvements to present buildings; J. P. Maher, Sec., School Bd. 6-4

Tex., Channing—School Bd. erect \$50,000 school; bonds voted.

Tex., Flatonia—Flatonia Ind. School Dist., E. A. Arnin, Jr., Pres., School Bd., receives bids July 10 for \$20,000, one-story, 61x109 ft., semi-fireproof high school; hardwood and terrazzo floors, cast stone, built-up roof, steel sash, hollow tile; R. Newell Waters, Archts., Security State Bank Bldg., Weslaco; W. E. Simpson Co., Engr., Millam Bldg., San Antonio. 6-11

Tex., Longview—Gregg County Ind. School Dist. votes June 30 on \$175,000 bonds for junior high school, two ward schools and improvements to present buildings; H. L. Foster, Supt. of Schools.

Va., Clarendon—Arlington County Bd. of Education, Fletcher Kemp, Supt., has low bid at \$53,278 from C. M. Buchanan, Clarks-ville, for additions to Patrick Henry School and Jefferson Colored School. 5-28

Va., Fairfax—Fairfax County School Bd., Wilbert T. Woodson, Div. Supt., soon call for bids for school at Franconia, home economics building at Herndon, schools at Floris and Cub Run; plans by Raymond V. Long, Archt. for State Bd. of Education, Richmond. 3-28

Va., Norfolk—College of William and Mary, Dr. J. A. C. Chandler, Pres., Williams-burg, considering erecting academic building and gymnasium for Norfolk Division of College.

W. Va., Pratt—See W. Va., Kayford.

W. Va., Kayford—Cabin Creek Dist. School Bd., Cabin Creek, receives bids July 6 for \$25,000, frame and stucco, 9-classroom at Kayford and \$25,000, brick, gymnasium, auditorium and 2-dressing room addition to school at Pratt; Walter F. Martens, Archt., Masonic Bldg., Charleston.

Stores

D. C., Washington—Sanitary Grocery Co., 1845 Fourth St., N. E., has low bid from Warren Spencer, 1348 Monroe St., for one-story, 32x90 ft., brick store, 335 Fifteenth St., N. E.; comp. or slag roof, limestone front, granite base; Julius Wenig, Archt., Edmonds Bldg.

D. C., Washington—DeMoll Piano Co., 12th and G Sts., erect 6-story, 28x54 ft., brick store; E. Webber, Archt.; Whelan Drug Co., Lessee, both 625 Madison Ave., New York.

Ga., Atlanta—Auto Piston Co., John C. Roberts, Pres., 312 Ivy St., N. E., has plans by Ivey & Crook, Candler Bldg., for one- or two-story, brick store on W. Peachtree St. at W. Peachtree Place, N. W.; comp. roof.

Ky., Louisville—Rhodes-Burford House Furnishing Co., 624-26 W. Market St., expend \$15,000 to remodel Exposition Bldg., 420-22 W. Market St.

Ky., Louisville—Following contractors estimating on \$100,000, 2-story and basement, 75x104 ft. store, 420-26 S. Fourth St., bids June 29 by W. T. Grant Co., H. T. Williams, Ch. of Construction, Louisville: L. W. Hancock, Louisville Trust Bldg.; A. Markham & Co., 432 S. Floyd St.; Struck Construction Co., 147 N. Clay St.; Worsham Construction Co., Starks Bldg.; J. D. Jennings, 443 Garden St.; Garst-Cowan Construction Co., 1225 S. 15th St.; Joseph & Joseph, Consit. Archts., Breslin Bldg. 6-28

La., Plaquemine—F. J. D'Albor Furniture Co. receives bids July 2 for \$19,000, one-story and mezzanine store; built-up roof; Wm. T. Nolan, Archt., Canal Bank Bldg., New Orleans.

La., Shreveport—Justin Gras, 727 Texas St., erect 2-story, brick commercial building, Mham and Common Sts.; 15 ft. frontage, containing 3 stores 14 ft. deep; Jones, Roes-sle, Olschner & Wiener, Archts., Ardis Bldg.

Md., Baltimore—Samuel Shuman, 6716 Harford Ave., take new bids this summer for 2-story, brick store and apartment, Harford Road and Northern Pkwy.; David Harrison, Archt., 3735 Reisterstown Road. 3-12

Md., Baltimore—Rubin Bender, 716 Poplar Grove St., has low bid from B. Krucoff, 3810 Sequoia Ave., for one-story, 14x11 ft., brick addition and remodel 2 stores into one.

N. C., Asheville—Mrs. John H. Lange purchased Redwood Bldg., 7-9 Patton Ave., adjoining present property; plans to develop two buildings as a unit.

N. C., High Point—R. R. Ragan erect three 1-story, brick store buildings, N. Main St.

Tex., San Antonio—Dr. A. A. Brown, Moore Bldg., Wm. Levy, E. M. Levy and S. J. Chandler purchased property with frontage

of 107 ft. on Elm St. ext., 132 ft. on Blum St. and 116 ft. on Bowie St., and improve for tenants.

Tex., San Antonio—Eugene Lowenthal, 1101 San Pedro Ave., soon ready for bids for \$10,000, one-story, 80x46 ft., brick and tile store, Pine and Van Ness Sts.; tar and gravel roof; Harvey P. Smith, Archt., 312 Natl. Bank of Commerce Bldg.; Lilly & Drought, Engrs., 1104 Frost Natl. Bank Bldg., both San Antonio.

Va., Martinsburg—Kirkson Brothers expend \$10,000 to rebuild two storerooms, 111-13 N. Queen St., previously damaged by fire.

BUILDING CONTRACTS AWARDED

Association and Fraternal

Md., Cockeysville—Dietrich Bros., Pleasant and Davis Sts., Baltimore, Md., has contract for about 500 tons fabricated struct. steel for \$600,000 first unit of Home for Dependents of Masons, Bonnie Blink near Cockeysville; Wm. W. Emmart, Archt., Union Trust Bldg.; Sandlass & Wieman, Struct. Engrs., 107 W. Saratoga St.; Henry Adams, Inc., Const. Engr., Calvert Bldg.; M. A. Long Co., Contr., 10 W. Chase St., all Baltimore. 6-11

Bank and Office

Tex., Cuero—Central Power & Light Co., Alamo Natl. Bank Bldg., San Antonio, let contract to H. F. Bernhard, 950 Drexel Ave., for alterations and additions to office bldg. damaged by fire; brick work, cast stone coping, stucco, steel bar joist with rein. conc. slab, pitch and gravel roof, conc. or steel beams over new store front, cement and terrazzo floors; John M. Marriott, Archt., Frost Bldg., San Antonio. 6-4

Churches

Okl., Muskogee—Boulevard Christian Church erect \$40,000 to \$50,000 bldg., present site, East Side Blvd. and Okmulgee Ave.; modified Gothic type, 56x102 ft., seat \$1000; Rev. Ralph Wolfe, to serve as constr. supt.; work by members.

City and County

Ala., Anniston—Calhoun County Bd. of Revenue let contract at \$106,583 to J. P. Bradfield, Hill Bldg., Columbus, Ga., for court house remodeling; fireproof, 3 stories and basement, steel windows, red tile roof, marble in corridors, acoustical treatment, ventilation; Lockwood & Poundstone, 101 Marietta Bldg., Atlanta, Ga., and M. M. R. Thomas, 1018 W. 15th St., Anniston, Asso. Archts. 5-28

Ala., Anniston—Kleipsig Plumbing & Heating Co., 26 W. 10th St., Anniston, has plumbing and heating contract at \$13,057 for \$125,000 court house remodeling; wiring, Burt Finch, Birmingham, at \$5226; Lockwood & Poundstone, 101 Marietta Bldg., Atlanta, Ga., and M. M. R. Thomas, 1018 W. 15th St., Anniston, Asso. Archts.

Ark-Tex., Texarkana—Otis Elevator Co., Murphy Bldg., St. Louis, Mo., has elevator contract for \$125,000 Miller County jail; S. A. Elsberry Co., 2308 Griffin St., Dallas, Tex., has metal window contract; Witt, Seibert & Halsey, Archts., Texarkana, Natl. Bk. Bldg.; Oats Building & Construction Co., Contr., both Texarkana. 5-21

Md., Baltimore—Potts & Callahan, Knickerbocker Bldg., Baltimore, have contract to raze bldgs. on site and excavate for \$2,400,000 Enoch Pratt Free Library; Clyde N. & Nelson Friz, Archts., Lexington Bldg., Baltimore; Edw. L. Tilton and Alfred Morton Githens, Const. Archts., both 141 E. 45th St., New York; C. L. Reeder, Mech. Engr., 913 N. Charles St.; Henry Massart, Struct. Engr., 328 N. Charles St., both Baltimore; Geo. A. Fuller Co., Contr., Fuller Bldg., New York, and Munsey Bldg., Washington, D. C. 5-7

Mo., St. Joseph—City Engineering Dept. rebuilding stadium lately noted burned at \$20,000 loss.

Dwellings

D. C., Washington—Columbia Construction Co., 7100 Ninth St., N. W., has permit for 6 brick and stucco dwellings, 5521-31 Kansas Ave., N. W.; 2 stories; total \$40,000.

D. C., Washington—H. R. Howenstein, 1311 H St., N. W., has permit for 3 brick dwellings, 1322-26 Potomac Ave., S. E.; 2 stories; total \$15,000; owner builds.

D. C., Washington—J. B. Tiffey, 419 Oglethorpe St., N. W., has permit for 4 brick dwellings, 4400-08 Thirteenth Place, N. E.; 2 stories; total \$25,000.

Theatres

Fla., Miami—Paramount-Publix Theatres Corp., Paramount Bldg., New York, and local subsidiary Paramount Enterprises, Inc., reported, erect \$500,000 theater, E. Flagler St. and S. E. Third Ave.; prob. one story; seat 1250 to 1800 people; C. W. & Geo. L. Rapp, Archts., Paramount Bldg., New York.

W. Va., Charles Town—Benj. T. Pitts and E. C. Bell, Fredericksburg, Va., completed negotiations with A. D. Goetz Sons Co., Ranson, W. Va., for erection of \$75,000 to \$100,000 theater to seat 1000 people.

D. C., Washington—Columbia Construction Co., 521 Irving St., N. W., erect 6 brick and stucco dwellings, 5521-23 Kansas Ave.; 2 stories, slate roof, hot water heat; F. G. Wilcox, Archt.

D. C., Washington—Arthur W. Brown, 4236 Eighth St., N. W., erect 2 brick dwellings, 807-09 Underwood St.; 2 stories, slate shingle roof, hot water heat; total \$10,000; owner builds.

D. C., Washington—Shannon & Luchs, 1435 K St., N. W., erect 11 brick, stone and stucco dwellings, 6000-10 34th Place, N. W.; 2 stories, slate roof, hot water heat; total \$88,000; A. B. Heaton, Archt., 1211 Connecticut Ave., N. W.; owners build.

D. C., Washington—Alvin Brown, 3610 Quesada St., erect stone residence, 4860 Linnear Ave., N. E.; 2½ stories, 51x35 ft.; Louis R. Moss, Archt., 1624 H St.; Norman C. Rogers, Contr., 1243 24th St.

Fla., Jacksonville—Isaac Spevak erect 3 brick veneer dwellings, 2688-94-98 Delwood Ave.; total \$17,000; D. J. Kelly, Contr.

Fla., Miami Beach—Gascogne Realty Co. erect \$25,000 dwelling, N. Bay Rd.; rein. conc., conc. block and stucco, tile and oak floors, steel sash, tile roof; Lester Avery, Archt., 308 Seybold Bldg., Annex, Miami; Wilborn Harborn, Contr., 2618 N. Greenway Drive, Coral Gables; work probably start in about 10 days.

Fla., Miami Beach—W. J. Gano, 4751 N. Bay Rd., has permit for \$15,000 residence, 2010 N. Bay Rd.; T. H. Henderson, Archt.; owner builds. 6-11

Fla., Macclenny—J. Oliver Milton erect 9-room residence, East Macclenny; C. Westberry, Contr.

Fla., Panama City—R. J. Cullen, Pres., Southern Kraft Corp., erect \$25,000 residence, Bunkers Cove; constr. under supervision of Kraft corporation.

Ga., Atlanta—Edgar R. Whitman, 1161 Ponce de Leon Ave., N. E., erect 1 story and basement residence, 1125 Reeder Circle, N. E.; hardwood and tile floors, comp. shingle roof; owner builds.

Ga., Atlanta—Rueben Gerbert, 534 Orme Circle, N. E., erect brick veneer residence, Claude Drive, N. E.; 1 story, hardwood and tile floors, comp. shingle roof; owner builds.

Ga., Atlanta—Alfred B. Sherwood, 115 Parkwood Lane, Station E, erect \$20,000 hollow brick dwelling, Stovall Blvd.; 2 stories, 32x65 ft. brick and Stone Mountain granite, English tile roof, cast stone, electric refrigerators, hardwood, terrazzo, tile and comp. floors, limestone, metal doors, plaster board, slate and English tile hip roof, steel sash and trim, interior tile, terra cotta trim, brass and bronze work; day labor; plans and constr. supervision by owner. 6-4

Ga., Covington—Dr. J. R. Sams erect \$20,000 residence; brick, 2 stories and basement, conc. foundation, hardwood and tile floors, slate roof, steam heat; owner builds, Howard Piper, Supt.

Ky., Lexington—Hugh R. Taylor, Contr., 209 Woods Point Road, has broken ground for dwelling, Ashland Park.

La., New Orleans—Geo. J. Lupo, Contr., 2231 Milan St., erect duplex, S. Gayoso St., near Fontainebleau Drive.

La., New Orleans—Geo. A. Pettit, Contr., 7922 Sycamore St., erect 2 dwellings, 2008-14 Congress St.

La., New Orleans—Geo. J. Stoll, 2510 Eads St., erect raised single residence, Gentilly Terrace; warm air heat.

Md., Baltimore—Jas. R. Cox, 4547 Harford Rd., erect stone and stucco residence and garage, Arcadia section; 2 stories, 25x30 ft.; owner builds.

Md., Baltimore—C. K. Wells, Contr., 3538 Old York Rd., excavating for cottage, Gibson Island; 2½ stories; Palmer & Lambdin, Archts., 513 N. Charles St.

Md., Baltimore—American Building Co., 4549 Jonquill Ave., erect 6 stone and stucco dwellings, 5416-26 Narcissus Ave., after plans by Adolph Preyer, Archt.; 2 stories, 16x38 ft., hot water heat; total \$15,000. 6-4

Md., Baltimore—J. M. Wagner, 1703 Harford Ave., let contract to Adam Kratz, 118 S. Carrollton Ave., for \$14,000 stone, cinder block and stucco residence, Norman Ave.; 2½ stories, 30x19.6 ft., oak and tile floors, stone foundation, slate roof, elect. refrigerator; Fredk. E. Beall, Archt., 334 St. Paul St.

Md., Baltimore—Walter P. Myers, 3049 Fleetwood Ave., erect brick residence, Westfield Ave.; 1½ stories, 25x30 ft.; Jas. R. Cox, Archt., 4547 Harford Rd.; owner builds.

Md., Baltimore—Frank Tranzillo, 2039 Park Ave., has contract for brick residence and garage, Overhill Rd. near First St.; 1 and 2 stories; Porter T. Bond, Archt., 911 Gorsuch Ave.

Md., Upper Marlboro—Mrs. Eleanor Patterson let contract to DeSibour Construction Co., 2009 R St., N. W., Washington, D. C., to remodel and enlarge dower house; conc., brick, stone, stucco, struct. steel, sheet metal work, rubber tile and hardwood floors, asbestos shingle roof, septic tank, Delco lighting system; Geo. N. Ray, Archt., 1223 Connecticut Ave., N. W., Washington. 6-4

Mo., Baltimore—Frank Macey, Bldr., 5001 Midwood Ave., erect \$10,000 brick dwelling, 202 Upnor Rd.; 2½ stories, 29x38 ft.; Machen & Dixon, Archts., 312 N. Charles St.

Miss., Biggersville, R. D. from Rienzi—Raymond M. Biggers started work on residence to replace burned structure; M. M. Taylor, Contr.

Mo., St. Louis—Model Home Realty & Construction Co. erect 3 brick dwellings, 5235-39-43 Mardell St.; 1 story, 26x46 ft., comp. shingle roofs, hot air heat; total \$15,000; Ernest G. Sachse, Archt., both 9450 Tennyson St., Overland; owner builds.

Mo., St. Louis—Jos. L. Rehme, Pres., Lafayette-South Side Bank & Trust Co., 1731 S. Broadway, erecting residence, Lake Forest; 15 rooms, playroom, 3-car garage; John A. Grunik, Jr., Archt., 73 Maryland Dr. 6-4

Mo., St. Louis—John Dryton, 6215 Odell St., erect 2 brick dwellings, 5223-27 Mardell St.; 2 stories, 25x32 ft., asphalt shingle roofs, hot water heat; total \$10,000; plans and constr. by owner.

Mo., St. Louis—Frank Hortleder, 1538 Mississippi St., erect 2 brick dwellings, 5342-46 Winona St.; 1 story, 26x46 ft., asphalt shingle roofs, hot air heat; total \$10,000; owner builds.

Mo., St. Louis—Stanley and Estelle Seltzer, 6473 Lloyd St., erect 3 brick dwellings, 6305-19 Tholoan St.; 1 story, 27x47 ft., comp. shingle roofs, hot water heat; total \$12,000; Walter Dutton, Archt.-Contr., 1008 Chestnut St.

Mo., St. Louis—Hugo Broleman, Sr., 4570 Clayton St., erect 3 brick dwellings, 5618-22-26 Rosa St.; 1 story, 27x45 ft., comp. roofs, hot water heat; total \$12,000; Hugo Broleman, Jr., Archt.-Contr., 4522A Clayton St.

Mo., University City, St. Louis—Wm. A. Riley Construction Co., 6221 Olive St., erect \$11,500 dwelling, 7325 Princeton St.; brick, 2 stories, 40x32 ft., conc. foundation, vapor heat, tile roof; E. B. Kelly, Archt., 6635 Delmar Blvd.

Okl., Miami—Geo. L. Coleman, Jr., excavating for \$16,000 residence; brick veneer, 1 story, 50x80 ft., tile and oak floors, conc. foundation, shingle tile roof, conc. foundation, elect. refrigerator, hardwood, linoleum and tile floors, incinerator, limestone, marble, steel sash and trim; Baldwin & Baldwin, Archts., Magnolia Bldg., Oklahoma City; constr. by owner and architects. 6-11

Okl., Tulsa—R. Otis McClintock, Pres., First Natl. Bank & Trust Co., let contract to Waller & Wells for French Provincial type residence, 41st St. and Lewis Ave.; brick, stone and rein. conc., 2½ stories and basement; stone and half-timber clubroom with timber ceilings; J. D. Forsyth, Archt., Exch. Bank Bldg.; Donald McCormick, Asso. Archt., Atlas Life Bldg.

Tenn., Memphis—M. S. Mascari, 424 Linden Ave., let contract to Theo. Coltrani for \$25,000 brick veneer residence, Jackson Ave. and Idlewild St.; English type, 1½ stories, 32x73 ft., hardwood floors, comp. or tile bath, hot water heat; Regan & Weller, Archts., Bank of Commerce Bldg. 6-11

Tex., Beaumont—R. B. Cousins, Jr., Pres., San Jacinto Life Insurance Co., erect \$30,000 Colonial residence, Caldwell Estates; white painted brick, 2 stories, 14 rooms; King-Huff Construction Co., Contr., 56 Franklin St.

Tex., Goliad—J. M. Hensley started work on 10-room stone and stucco residence.

Tex., Sherman—Arthur Vaughan started work on 1-story brick veneer residence; Jeff Hopper, Contr.

Government and State

D. C., Washington—Architect of The Capitol, David Lynn, let contract to George A. Fuller Co., Munsey Bldg., Washington, for \$800,000 conservatory bldg., U. S. Botanic Garden; stone, conc., steel, aluminum and glass constr., 1 story, about 183x284 ft., rein. conc. pile foundation; dome over central section; Bennett, Parsons & Frost, Archts., 80 E. Jackson Blvd., Chicago, Ill. 6-4

Ga., Fort Benning—Service Co., Inc., 1522 First Ave., has plumbing and heating subcontract for units E. F. G. and H of Barracks No. 2; elect. work, Walker Electrical Co., 111 12th St., both Columbus; Murphey Pound, Hill Bldg., Columbus, gen. contract at \$244,417. 6-11

La., Barksdale Field, Shreveport—O'Pry Plumbing & Heating Corp., Macon, Ga., has plumbing and heating contract for 42 company officers' quarters and 3 barracks; case-ment and steel windows, etc., Detroit Steel Products Co., 2431 First Ave., S.; Vitritile, National Fireproofing Co., both Birmingham, Ala.; laboratory tests, Barrow-Agee Laboratories, 627½ Market St.; insulating board, Standard Building Supply Co., 331 Franklin St., both Shreveport; roofing and sheet metal work, Dixie Roofing Co., Inc., 414 Walnut St., Monroe, La.; painting and decorating, Brasted Lacquer & Spray Equipment Co., Wichita, Kan.; steel bucks, kalamine doors and metal stools, Pinkston-Mason Co., Construction Bldg., Dallas, Tex.; laying, scraping and sanding floors, Brandt Floor Co., San Antonio, Tex.; Ashton-Glassell, Inc., Contr., 260 Cadillac St., Shreveport. 5-28

La., Opelousas—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., let contract at \$73,850 to O. M. Gwin Construction Co., 3501 Fern St., New Orleans, La., for post office extension and remodeling. 6-11

Md., Solomons—State Conservation Dept., Swenson Earle, Commr., 516 Munsey Bldg., Baltimore, let contract to Jas. J. Wesely & Co., 522 Park Ave., Baltimore, for \$40,000 Chesapeake Biological Laboratory; Colonial type, brick, 3 stories and basement, 80x28 ft.; slate roof, install pumps; plans by Wm. G. Johnson, 1520 N. Monroe St., Baltimore. 5-21

Miss., Lumberton—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., let contract at \$48,725 to Algernon Blair, First Natl. Bank Bldg., Montgomery, Ala., for post office; rein. conc., brick, tile, stone, 2 stories and basement, 64x56 ft., comp. and slate roof, steel work. 6-11

Mo., Kansas City—McClintic-Marshall Corp., Chicago, Ill., has contract for 4400 tons struct. steel for \$4,500,000 post office; Ring Construction Co., Contr., Milwaukee, Wis. 6-4

Mo., Kansas City—Kansas City Cut Stone Co., Fifth and Cheyenne Sts., Kansas City, and Indiana Limestone Co., Bedford, Ind., have sub-contract for about 250 carloads of stone for \$4,500,000 post office; about 1200 tons rein. steel to Concrete Engineering Co., Walsix Bldg., who will probably get it from Sheffield Steel Corp.; excavation, W. C. Hill Const. Co., 1345 Market St., all Kansas City; Ring Construction Co., Gen. Contr., Minneapolis, Minn. 6-4

N. C., Asheboro—National Guard started work on 1-story brick armory, Church St.; 30 lockers; bath, dressing room.

N. C., Fort Bragg—Constructing Quartermaster let contract at \$258,650 to W. P. Rose Co., Wayne Natl. Bk. Bldg., Goldsboro, N. C., for hospital and utilities; rein. conc., brick, tile and stucco, 3 stories and basement, 260x40 ft., and 36x100 ft., tile roofs, limestone, granite, terra cotta, marble, tile and soapstone, linoleum, asphalt and terrazzo floors. 6-11

Tex., Columbus—A. J. Rife Construction Co., 1913 N. Harwood St., Dallas, erect fireproof bldg., to be leased to Government for post office; 1 story; equipment.

Tex., Lubbock—Ben Sibbitt Iron & Foundry Co., Wichita, Kan., has contract for about 100 tons struct. steel for \$350,000 post office and Federal Bldg.; rein. steel, Koerner Engineering Co., St. Louis, Mo.; Wm. MacDonald Construction Co., Contr., both Synd. Trust Bldg., St. Louis. 4-30

Va., Langley Field, Hampton—Soule-Hoffman Co., 1906 S. Boulevard, Charlotte, N. C., has contract for 100 tons struct. and misc. steel for 3 Air Corps barracks, Langley Field; 500 tons rein. conc., Southern G-F Co., 263 Decatur St., S. E., Atlanta, Ga.; Townsend Lumber Co., Contr., N. Towers St., Anderson, S. C.

Va., Quantico—Navy Dept., Bureau of Yards and Docks, Washington, D. C., let contract at \$62,140 to Green & Stowe, 532 McDowell St., Welch, W. Va., for disciplinary barracks, U. S. Marine Barracks. 6-4

Hospitals, Sanitariums, Etc.

Ga., Waycross—Ware County Bd. of Commrs. let contract to V. C. Parker, Waycross, for \$81,000 hospital; elect. work, Byck Electric Co., 137 Bull St., Savannah, Ga., at about \$14,000; plumbing and heating, Walter Denson, 2916 Olga Place, Jacksonville, Fla., at about \$30,358; elevators, Otis Elevator Co., 39 Harris St., N. E., Atlanta, Ga., about \$5586; fireproof, Colonial type, rein. conc. frame, face brick and clay tile, 3 stories and part basement, T shape, 129x49 ft. and 64x40 ft., rubber tile, vitreous tile and comp. floors, conc. foundation, 20-yr. tar and gravel roof, 2 major operating rooms, X-ray dept.; S. Ralph Fetner, Archt., 32 W. Forsyth St., Jacksonville. 6-4

La., New Orleans—John J. Palmisano, 1928 Pine St., has excavation contract for \$500,000 Flint Goodridge Hospital; elect. work, Sullivan & Phillips Co., 117 Decatur St.; comp. roofs, Olympia Roofing Co., 317 Burgundy St.; inspecting conc. and testing rein. steel, Dr. Herbert M. Shilstone, 512 Gravier St.; lime, gypsum tile, shower bath casings, American Brick Co., 4516 D'Hemecourt St.; marble work, A. Weiblen Marble & Granite Co., 501 Park Ave.; struct. steel, Jones & Laughlin Steel Corp., P. O. Box 320, all New Orleans; terra cotta tile, National Fireproofing Co., Birmingham, Ala.; terra cotta, Midland Terra Cotta Co., 105 W. Monroe St., Chicago, Ill.; toilet partitions, Henry Weis Manufacturing Co., Elkhart, Ind.; hollow metal windows, Campbell Industrial Window Co., Pershing Sq. Bldg., New York; aluminum work, Usona Manufacturing Co., 3512 Chouteau Ave., St. Louis, Mo.; Moise H. Goldstein, Archt., Amer. Bank Bldg.; Geo. J. Glover Co., Inc., Contr., Whitney Bldg. 6-11

Md., Baltimore—Johns Hopkins Hospital let contract to Consolidated Engineering Co., Inc., 20 E. Franklin St., for \$25,000 animal house above existing bldg.; Archer & Allen, Archts., 3 E. Lexington St.; Van Rensselaer Saxe, Struct. Engr., 217 N. Charles St. 4-23

Okla., Shawnee—Department of Interior, Office of Indian Affairs, Washington, D. C., let contract at \$55,400 to Cooke & Maxey Co., Elks Bldg., Shawnee, for infirmary, Shawnee Sanatorium. 6-4

Tex., Galveston—Alamo Iron Works, 130 Santa Clara St., San Antonio, Tex., has contract for about 100 tons struct. steel for \$350,000 nurses' home, John Sealy Hospital; R. L. White, Archt.-Engr., care University of Texas, Austin; Dr. Christopher Parnall, Consultant, Rochester, N. Y.; J. E. Morgan & Sons, Contrs., 3197 Texas St., El Paso, Tex. 4-30

Tex., San Antonio—Austin Organ Co., 158 Woodland St., Hartford, Conn., has contract for \$25,000 pipe organ for \$150,000 chapel on grounds of Woodmen of the World Hospital. 10-2

Hotels and Apartments

D. C., Washington—Raleigh Hotel Co. has permit to install two electric passenger elevators in building; \$37,755; Elevator Co., 810 18th St., N. W., has contract.

D. C., Washington—Seaboard Realty Co., Inc., care Louis T. Rouleau, Archt., 2020 Massachusetts Ave., N. W., started work on 5-story, 90x125 ft., rein. conc. apartments, 7611-7701 Georgia Ave.; slag roof, cast stone, electric refrigerators, elevators, hardwood, linoleum and tile floors, incinerators, limestone, marble, metal doors, built-up flat roof, gypsum and hollow tile, wire glass; \$130,000 each; owners build. 6-11

Ga., Atlanta—C. T. Tappan, Tappan Tire Co., 241 Spring St., N. W., let contract to Joe Walker, Grant Bldg., for \$25,000 repairs to apartment building, 425 Highland Ave., N. E., recently damaged by fire; 2 stories, brick, wood floors, comp. roof. 6-11

Ga., Tate—Tate Mountain Estates, Luke Tate, started work on addition to Connahee Lodge including larger ballroom, dining room and additional guest rooms.

Md., Baltimore—Walter J. Crismer erect 2-story, cinder block and stucco 4-family apartment, 3021 Lowndes Ave.; owner builds; C. W. Rees, Archt., 119 Clarendon Ave., Pikesville.

Md., Baltimore—Dr. Ryland O. Sadler, 2318 N. Charles St., started work on \$18,000 improvements to office and apartment building; 3 stories, brick, hardwood and linoleum floors, slag roof, electric refrigerators; G. Walter Tovell, Contr., Eutaw and Monument Sts.; Owens & Sisco, Archts., 1605 Continental Bldg.

N. C., Manteo—Claude Duvall and Carson Creff erecting (brick and frame work complete) \$45,000, 3-story, 40x80 ft., brick and brick veneer hotel; wood floors, asbestos shingle roof; Lawrence & Scarborough, Contrs., Manteo; R. Scarborough, Archt., Wanchese. 5-28

Okla., Oklahoma City—McClintic-Marshall Corp., Pittsburgh, Pa., reported, has contract for 2200 tons struct. steel for \$2,500,000, 26-story Skirvin Tower for which Campbell & Price, 6605½ W. Main St., have general contract; Layton, Hicks & Forsythe, Archts., Braniff Bldg.; Skirvin Operating Co., C. W. Skirvin, V.-P., Props.; financed by J. W. Colvin, Democratic Bldg., Houston, Tex., and Mrs. George Mesta, New York, daughter of W. B. Skirvin. 5-19

Okla., Oklahoma City—Oklahoma Hotel Building Co., C. F. Colcord, 421 W. 13th St., resumed steel work on \$3,000,000, 26-story Biltmore Hotel, Grand and Harvey Aves.; Reinhart & Donovan Co., Gen. Contrs., Commerce Exch. Bldg.; Hawk & Parr, Archts., First Natl. Bank Bldg. 4-30

Tex., Alice—Tex.-Tenn. Development Co., care W. A. Sibley, Contr., Edinburg, erect \$150,000, 3- and 5-story, 140x150 ft., brick, tile, struct. steel, cast stone and rein. conc. hotel; tile and built-up roof, conc., tile and terrazzo floors; Stanley W. Bliss, Archt., Rio Grande Natl. Life Insurance Bldg., Harlingen. 5-14

Tex., Falfurrias—Tex.-Tenn. Development Co., care W. A. Sibley, Contr., Edinburg, erect \$120,000, one- and two-story, 110x120 ft., brick, tile, struct. steel, cast stone and rein. conc. hotel; tile and built-up roof; conc., tile and terrazzo floors; Stanley W. Bliss, Archt., Rio Grande Natl. Life Bldg., Harlingen. 5-14

Miscellaneous

Ala., Anniston—J. Ralph Usrey, 1407 Noble St., 60x43 ft., brick addition and improvements to Usrey Funeral Home; \$10,000.

Okla., Tulsa — Muskogee Iron Works, Frankfort and Spaulding Sts., Muskogee, has contract for 550 tons struct. steel for coliseum for Tulsa State Fair Assn., John T. Kramer, Sec., for which Manhattan Construction Co., Court Arcade Bldg., has general contract at \$268,875; Leland I. Shumway, Archt., Alexander Bldg. 6-4

Tex., San Antonio—Mrs. W. W. Lipscombe, 632 Elizabeth St., rebuild one-story, brick and rein. conc. building, N. St. Mary and Navarro Sts., to be leased to F. C. Suchy Floral Co.; J. E. Dickey, Contr., 216 Eleanor St.; Henry J. Steinbomer, Archt., Western Natl. Bldg.

Va., Roanoke—M. J. Patsel, 202 Second St., S. W., erect \$10,000 one-story, 30x31 ft., brick and stone building in Virginia Heights, to be leased for library purposes; Eubank & Caldwell, Inc., Archts.-Contrs., Boxley Bldg.; soon start work. e

Va., Roanoke — St. Andrew's Catholic Church, Father T. B. Martin, Rector, let contract to Martin Brothers, 209½ First St., S. W., for \$63,000, 2-story, fireproof high school; gymnasium 45x69 ft., gallery, shower rooms, 5 classrooms, science rooms, library, music room and 6 practice rooms; J. F. Barbour & Sons have contract for \$35,000 orphanage to be erected by Diocese of Richmond, Rt. Rev. Andrew J. Brennan, Bishop, 800 Cathedral Place, Richmond; A. Byron Williams, Archt., Citizens & Marine Bank Bldg., Newport News; excavation completed by W. W. Draper. 4-23

Railways Stations, Sheds, Etc.

Tex., Littlefield—Panhandle and Santa Fe Ry. Co., W. W. Kelly, Ch. Engr., Santa Fe Bldg., Amarillo, let contract to D. N. Leaverton, Lubbock, and started work on \$60,000 combination freight and passenger station; 40x125 ft., one story, brick, frame and conc., comp. roof, conc. floors; E. A. Harrison, System Archt., Ry. Exch. Bldg., Chicago, Ill. 3-5

Schools

Ala., Tuscaloosa—University of Alabama, Shaler Houser, Sec., let contract to Harrison Richardson, Brown Marx Bldg., Birmingham, for fraternity house; 2 stories, 35x65 ft., brick veneer; Warren, Knight & Davis, Archts., 700 Protective Life Bldg., Birmingham.

Ala., Tuskegee—Tuskegee Normal & Industrial Institute, care Taylor & Persley, School Archts., has plans nearly completed for \$300,000, 3-story and basement, 160x70 ft., rein. conc., struct. steel, brick and tile Science Bldg.; Fosdick & Hilmer, Mech. Engrs., Union Trust Bldg., Cincinnati, Ohio; stone trim, comp. roof; it is advised that building will be constructed by student labor.

Ga., Patterson—Bd. of School Trustees, H. L. Dixon, Sec., erect brick veneer, 6-classroom school; comp. roof; prob. build by day labor; plans by State Dept. of Education, State Capitol, Atlanta. 6-11

La., Shreveport—Caddo Parish School Bd. let contracts as follows for school additions: K. C. Wilson, 1023 Slattery Bldg., \$65,216, for 2-story, 70x120 ft., rein. conc., fireproof, 8-room addition to Fair Park High School; hardwood and tile floors, limestone, marble, built-up roof, hollow tile, ventilators, brass and bronze work; Jones, Roselee, Olschner & Weiner, Archts., Ardis Bldg.; E. F. Freeman, Engr., Levy Bldg.; F. D. Welch, 940 Elm St., \$16,866, 4-room, brick addition to South Highlands School; Strubbe McConnell, \$32,585, 4-room, brick addition to Creswell School; rejected bids for auditorium building for negro high school; Edw. F. Neild, Archt., City Bank Bldg. 6-4

Md., Baltimore—School Commrs., Bureau of Maintenance, J. C. Siegel, 1230 E. 20th St., let following schools repairs: Contract E-26-31, plumbing and heating, School No. 120, \$16,999, Loyd E. Mitchell Co.; Cont. E-24-31, plumbing at School No. 81, \$8242, and Cont. E-23, plumbing, School No. 63, \$8419, DeCou & Chidlaw, Eutaw and Biddle Sts.; Cont. E-25-31, plumbing at School No. 104, \$9075, H. W. Gail & Son, 1026 Hillen St.; Cont. E-28-31, heating at School No. 55, \$24,388, Chas. T. King, Inc., 1017 Cathedral St.; Cont. E-35-31, painting, Schools Nos. 27, 83, 292, \$10,436, and Cont. E-34-31, painting at Schools Nos. 68, 72, 98, 98A, \$8436, Basil B. Wells, 1617 Frederick Ave.; Cont. E-36-31, painting at Schools Nos. 23, 114, 215, \$6250, Maryland Painting Co., American Bldg., and 201 S. Highland Ave. 6-11

Md., Baltimore—Concrete Steel Co., 42 Broadway, New York, has contract for 350 tons rein. steel for 3-story, conc. and brick, 8-classroom Forest Park Jr. High School for which H. L. Maas & Sons, 1119 N. Ensor St., has general contract at \$662,969; Smith & May, Archts., Baltimore Trust Bldg.; Kubitz & Koenig, Struc. Engrs., Emerson Tower Bldg.; Henry Adams, Mech. Engr., Calvert Bldg. 5-14

Md., Baltimore—St. Katherine's Catholic Church let contract to Geo. B. Monmonier, Kingsville, for \$15,000, brick, semi-fireproof addition to school, Preston and Rose Sts.

Md., Baltimore—Bd. of Awards, City Hall, let contract at \$206,923 to J. L. Robinson Construction Co., 522 Park Ave., for West Baltimore negro elementary school, Mount St. near Riggs Ave.; 3 stories, 160x96 ft., brick, 18 classrooms, library, art room, kindergarten and auditorium; Buckler & Fenhagen, Archts., 325 N. Charles St.; Henry Massart, Struc. Engr., 328 N. Charles St.; James Posey, Mech. Engr., Baltimore Trust Bldg.; plumbing and heating, Modern Engineering Co., 107 E. Pleasant St. 6-11

Md., Salisbury—Wicomico County School Commrs. plan to break ground in few days for 2-story, brick addition to high school, including 12 classrooms, gymnasium and cafeteria; Cogswell Construction Co., Contr., 406 Park Ave.; Smith & May, Archts., Baltimore Trust Bldg., both Baltimore.

Miss., Madden—Madden Consolidated School Dist. Bd. of Trustees, care Leake County Supt. of Education, Carthage, let contract at \$17,218 to L. E. & W. F. Breland, New Augusta, for one-story, brick school; 12 classrooms and auditorium, built-up comp. roof, steam heat; Frank P. Gates Co., Archt., 908-10 New Merchants Bank Bldg., Jackson. 5-28

Miss., Poplarville—Bd. of Trustees of Savannah School, care A. B. Nicholson, County Supt. of Education, let contract at \$11,383 to Fowler Construction Co., Hattiesburg, for one-story, brick auditorium-gymnasium and 2-classroom school addition; built-up comp. roof; Vinson B. Smith, Jr., Archt., Bank of Gulfport, Gulfport. 5-21

Miss., Tupelo—East Tupelo Consolidated School Dist. Trustees let contract at \$8000 to Leake & Goodlett for one-story, brick veneer school; Dewey Patterson, Lee County Supt. of Education.

Mo., Clayton, St. Louis—Bd. of Education, John J. Bracken, 7500 Maryland Ave., St. Louis, let contract to McCarthy Brothers Construction Co., 4903 Selmar Blvd., St. Louis, for cafeteria and shop addition to Clayton High School; \$56,000; Wm. B. Ittner, Inc., Archt., Continental Life Bldg., St. Louis. 4-9

Mo., Columbia—Following sub-contracts awarded on 2-story, 50x140 ft., rein. conc., brick, stone building on campus of University of Missouri for Memorial Union Comm., R. L. Hill, Sec., for which Simon Construction Co. has general contract: Excavation, Boyd Construction Co., Columbia; cut stone, Indiana Limestone Co., Midland Bldg., Kansas City; struc. steel, Mississippi Valley Steel Co., 3117 Big Bend Blvd., Maplewood; rein. steel, Concrete Engineering Co., Walsix Bldg., Kansas City; Jamieson & Spearl, Archts., Arcade Bldg., St. Louis. 4-23

Mo., St. Joseph—Bd. of Education started work on \$62,000 high school, Sixth Ave. and 13th St.; 3 stories, 60x104 ft., brick and rein.; A. G. Leach, Contr. 4-16

Okla., Asher—Bd. of Education let contract at \$19,400 to R. M. Everett, Tecumseh, for one-story, brick, semi-fireproof school and town auditorium; wood floors, built-up roof, cast stone, plaster board; J. B. White, Archt., Box 55, Ardmore.

S. C., New Brookland—Bd. of Trustees, School Dist. No. 29, let contract to W. A. Cray & Son, 1226 Sumter St., Columbia, for \$83,000, 2-story, 308x106 ft., brick, stone trim high school; Wessinger & Stork, Archts., Arcade Bldg., Columbia. 6-4

Tenn., Bellevue—Davidson County School Bd., Nashville, let contract at \$25,000 to Cowan Lumber & Planing Mill Co., Dickson, for 2-story, brick, stone, semi-fireproof, 4-classroom high school near Bellevue; Geo. D. Waller, Archt., 911 Ind. Life Bldg., Nashville. 5-28

Tenn., Huntsville—Bd. of Education started work on \$75,000, brick, 16-classroom high school; A. M. Cook, Contr.

Tenn., Knoxville—University of Tennessee let contract at \$28,000 to C. J. Murray, Deaderick Bldg., for first wing of Fulton Memorial Hospital.

Tex., Pettus—Pettus Common School Dist., Leroy Roberts, Pres., let contract at \$25,800 to Hilary B. Marin, Beeville, for one-story, brick, tile and rein. conc., 6-room, auditorium and library school; Hamon & Co., Archts., 501 Medical-Professional Bldg., Corpus Christi. 6-4

Tex., Rio Grande City—Rio Grande City Ind. School Dist., Oscar T. Vale, Sec., School Bd., let contract, \$35,755 to Ortiz Bros., Laredo, for one-story, brick and rein. conc. grammar school; R. Newell Waters, Archt., Weslaco; W. E. Simpson Co., Engr., 942 Milam Bldg., San Antonio. 6-4

Tex., Silsbee—Bd. of Education, Rank T. Blow, Pres., let contract at \$37,402 to Williams Construction Co., Houston, for 2-story, 8-classroom, library and auditorium high school; stucco, stone trim; Livesay & Weidemann, Archts., San Jacinto Life Bldg., Beaumont. 6-11

W. Va., Clarksburg—Coal Dist. Bd. of Education, M. P. Boyles, Supt., let contract at \$33,313 to Pico & Marrs for addition to Northview Jr. High School; gymnasium and auditorium as well as space for manual training and domestic science departments and 4 classrooms. 3-5

W. Va., Parkersburg—Wood County Bd. of Education, H. A. Langfitt, Supt., let contract at \$9537 to Berry Brothers Construction Co., Smith Bldg., for 2-room addition to school in Lubeck.

Stores

Ala., Mobile—Louisiana-Alabama Investment Co. let contract to Horace A. Fowler, 23 McPhillips Ave., for one-story brick building, 161-63 Conti St.

Ala., Selma—Joe Rosenberg erect 4 brick stores and 2 brick veneer bungalows; carpenter and brick work will be done by day labor.

Ala., Toulminville—Greer's, Inc., let contract to Lee Richardson for one-story, brick store to be leased to Kirkland Drug Co., Inc. 4-23

Ga., Albany—S. H. Kress & Co., 114 Fifth Ave., New York, let contract to G. A. Miller & Co., Petteway Bldg., Tampa, Fla., for 2-story and basement, 150x44 ft., rein. conc., struc. steel, brick and hollow tile store; stone trim, steam heat; Edw. F. Sibbert, Company Archt. 6-4

Ga., Atlanta—Hugh Richardson, 160 Peachtree St., N. E., erect 2-story and basement, 100x100 ft., rein. conc., brick and tile store, Williams and Harris Sts., N. W.; stone trim, built-up roof; A. Ten Eyck Brown, Archt., and A. Barili, Jr., Asso. Archt., both Forsyth Bldg.; owner prob. builds by day labor.

Ga., Gainesville—Dr. R. D. Griff erect 2-story, 20x100 ft., brick store building; comp. roof; owner prob. builds by day labor.

Miss., Aberdeen—V. Scurria erect brick store building; Jesse Bourland, Contr.

N. C., Enka—L. L. Merchant Construction Co., Contr., 200 Biltmore Ave., Asheville, advises that work on \$35,000 business building for American Enka Corp., recently reported, has been completed; no other work in immediate future. 6-4

Theatres

Va., Roanoke—Roanoke Bridge & Iron Works have contract for 200 tons struc. steel for \$500,000 theater for Theatre Holding Corp., care Meyer & Engel, D. S. Meyer, 1909 First Ave., Birmingham, Ala.; D. J. Phipps, Gen. Contr., 212 Main St.; to be leased to Paramount-Publix Theatres Corp., Paramount Bldg., New York; C. W. & Geo. L. Rapp, Archts., Paramount Bldg., New York; Eubank & Caldwell, Resident Archts., Boxley Bldg. 4-16

Warehouses

Tex., Waco—Nash Robinson & Co., 1600 Franklin Ave., reconstructing 70x350-ft. warehouse and 40x650-ft. sheds; frame and iron sides and roofing, pine or maple floors, local labor.

Anti-Trust Law Revision

Desirable

The welfare of American business today requires a revision of our anti-trust laws. That is the verdict of 70 per cent of the members of the Economic Credit Council of the National Association of Credit Men, in answer to a questionnaire, the results of which are to be presented at the annual convention and the Credit Congress of Industry of the association in Boston, June 22-27. The council is made up of almost a thousand business and credit executives throughout the country.

Of those favoring revision of present anti-trust laws, practically 50 per cent expressed themselves in favor of changes because the present statutes are "antiquated, obsolete, and must be adjusted to fit present day needs." The remainder of the opposition divides its reasons for demanding legislation on anti-trust problems among three main classifications. One group states that "cooperation is needed, not restraint," a second charges the enactors with having indulged in "grandstand stuff" and demands that politics be eliminated from business; the third group feels that the present laws are too drastic and eliminate too many small businesses, and maintains that regulated production should be allowed. Scattering opposition to present legislative conditions includes such reasons as "too much control in a few hands," and a small number of commentators foresee improvement and stimulation of our foreign trade if business is not restricted as it is under the present enactment.

A second section of the survey reveals a distinct tendency toward "terms dictation" or "terms grabbing" on the part of customers, 56 per cent of the members of the Credit Council stating that such a condition is paramount in the markets of the country today.

Clearer skies are foreseen on the economic horizon by the members of the council. Approximately 68 per cent consider their sales prospects for the next six months to be better, and only a trifle over 20 per cent foresee poorer sales in the next half year. In the matter of collections 62 per cent of the council's members predict better prospects, despite a record for the first four months of 1931 in which the council reports that 85 per cent of its members had smaller sales than in the first four months of 1930, and 72 per cent had smaller collections.

WANT SECTION

THE CLASSIFICATIONS IN THIS SECTION ARE:

Machinery and Supplies

Under this heading are reported requests for data, prices and literature and information on machinery, supplies and miscellaneous materials of a wide variety.

Building Materials and Equipment

This division comprises all classes and kinds of materials and equipment used in building and construction projects of every kind.

Bids Asked

Includes bids asked by U. S. Government, States, districts, municipalities, firms and individuals for machinery, materials, supplies and construction work.

Items in this department are published without charge and these columns are open for the publication of wants of all kinds relating to construction work, machinery, materials and supplies.

Machinery and Supplies

Ed. P. Phillips Machinery Co., Ninth and Cary Sts., Richmond, Va.—Wants prices and data on:

- (1) Mining Equipment—for mining gold
- (2) Quarry Planers—to handle soapstone.

Frigid Fruit Corp., 45 S. W. 12th St., Miami, Fla.—Wants prices and data on following:

- (1) Fruit Paring, Coring, Dicing Machinery
- (2) Refrigeration Equipment
- (3) Moulds—ice cream
- (4) Mixing Bowls
- (5) Factory Equipment.

Geo. R. Spencer & Son, (Insulating Yarns), Shelby, N. C.—Wants following (new or used):

- (1) Crude Oil Engine—50 to 75 h. p.
- (2) Motor—50 to 75 h. p. 2300 volts.

Liberty Veneer Co., Inc., Cyrus Schoffner, Sec., rebuilding burned veneer plant and wants prices and data on following (may be used in good condition):

- (1) Veneer Lathes
- (2) Clippers
- (3) Mechanical Dryers
- (4) Trim Saws.

Weiss-Patterson Lumber Co., Inc., Pensacola, Fla.—Wants data and prices on following for planing mill:

- Engine—Corliss, 250 h. p.
- Matchers—one or two
- Moulders—one or two
- Band Resaw Sander
- Band Rip Saws
- Saw and Filing Room Equipment.

Laurence Manning, 6 Fifteenth St., Atlanta, Ga.—Wants dealers prices on:

- (1) Crawler-type Shovel.—First class used or rebuilt 1½ yd., shovel on crawler treads; gasoline.
- (2) Dragline—40 to 45-ft. boom.

Bottle Stopper Machinery.—W. F. Hodgins, 1412 N. W. G Ave., Miami, Fla.—Wants prices and data on machines for making paper stoppers for milk bottles.

Clay Calcining Machinery.—J. H. Irving, General Delivery, Winslow, Ariz.—Wants prices and data on machinery for calcining clay, etc.

Clothing Manufacturing Equipment.—Industrial Engineering Co., Lock Box 272, Lexington, Ky.—Wants first-class rebuilt equipment used in manufacture of shirts, overalls, jumpers and children's cotton-wear and women's ready-to-wear cotton wear.

Electric Welders.—Greensboro Supply Co., Greensboro, N. C.—Wants 200 amp. and 300 amp. electric welding machines, portable type, driven by gasoline engine; also by 3-phase, 60-cycle, 220-volt A. C. motors.

Engine Generator Units.—Ideal Equipment Co. (Machy. Dealers), P. O. Box 412, Columbus, Ohio.—Wants prices and data on two 125-kw. to 175-kw. A. C. engine generator units; 3-phase, 60-cycle, 220 to 440 volts; Uniflow engine preferred, but can use four valve.

Missouri.—U. S. Engineer Office, 707 Postal Telegraph Bldg., Kansas City, receives bids June 27 for construction of 5180 lin. ft. standard pile clump dikes in Missouri River at Isbell Reach, downstream from Bonnots Mills, Mo.

Motor.—Screven Oil Mill (Cotton Seed Products), Sylvania, Ga.—Wants prices and data on used 75 h. p. slip-ring electric motor, 550 volts, 900 r. p. m., complete with drum control and resistance.

Soap Making Equipment.—Industrial Engineering Co., Lock Box 272, Lexington, Ky.—Wants first-class used equipment for the manufacture of soap; nothing but small units considered.

Sub-Graders.—D. C. Elphinstone, Inc. (Machy. Dealer), 120 S. Calvert St., Baltimore, Md.—Wants prices and data on one or more used Lakewood sub-graders for 16-ft. road.

Textile Machinery, Specialties.—Greensboro Supply Co., Greensboro, N. C.—Wants to represent firms manufacturing machinery or specialties suited to requirements of cotton and rayon mills.

Key City Furniture Co., 506 B St., North Wilkesboro, N. C.—Wants following:

Boring Machine.—1 double spindle horizontal adjustable motor driven (prefer second hand)

Heating System.

Miscellaneous

Enameled Metal.—Public Investment Co., Inc., C. C. Bancroft, Consol. Engr., 423 Carondelet St., New Orleans, La.—Wants prices and data on enameled metal such as used in tops of low cost kitchen tables.

Hose.—George T. Robinson, 11 Vanderbilt Campus, Nashville, Tenn.—Wants prices and data on gasoline hose and hose accessories, such as used at filling stations.

Medallions.—District of Columbia Commission, George Washington Bicentennial, J. L. Kolb, Chmn., Committee on Printing and Publications, 923 New York Ave., Washington, D. C.—Wants prices and data on casting medallions from plaster cast in plaster, cement, papier-mache, bronze, or other metals or compositions.

Relay Rails.—Laurence Manning, 6 Fifteenth St., Atlanta, Ga.—Wants three to four miles good 25 to 35-lb. relaying rails and splices; dealers prices.

Frigid Fruit Corp., 45 S. W. 12th St., Miami, Fla.—Wants prices and data on following:

- (1) Maraschino Cherries
- (2) Nuts
- (3) Aluminum Foil
- (4) Cartons
- (5) Chocolate Coating.

Building Material and Equipment

M. A. Long Co., Contr., 10 W. Chase St., Baltimore, Md., taking sub-bids on alterations to Central Savings Bank, Charles and Lexington Sts., Baltimore; Archer & Allen, Archts., 3 E. Lexington St.

M. H. Connally, Contr., 1540 S. W. First St., Miami, Fla.—Wants prices on following for one-story, 92x92 ft. school, Goulds, Fla.: Blackboards—fibre, Hyglo Plate or equal.

Bids Asked

Aircraft Compasses.—Navy Dept., Bureau of Supplies and Accounts.—Bids June 23 for aircraft compasses for Naval Observatory.

Airplane Fueling System.—Constructing Q. M., Capt. M. A. McFadden, Maxwell Field, Montgomery, Ala.—Bids July 7 for furnishing and installing underground gasoline fueling system for airplanes, Maxwell Field.

Bending Roll.—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids June 23 for bending-roll angle machine, motor-driven; Sched. 5911.

Bebout Horses, Props, Frames, Shafts.—War Dept., U. S. Engineer Office, Huntington, W. Va.—Bids June 26 for bebout horses, props, hinged frames, shafts, etc., for Dams Nos. 26 and 27, Ohio River.

Bedspreads, Mattress Covers.—Treasury Supply Division, Washington, D. C.—Bids June 22 for 125 doz. bedspreads and 1200 mattress covers. Cir. 9431.

Bending Machine.—Navy Dept., Bureau of Supplies and Accounts, Washington, D. C.—Bids June 23 for motor driven, bending, machine.

Bituminous Surfacing.—State Highway Comsn., Gibb Gilchrist, Engr., Austin, Tex.—Bids June 22 for bituminous surface treatment on highways in Callahan, Eastland and Red River counties; Job M-8-Q-3, 3.206 mi. and Job M-8-R-3, 13.614 mi., both on Highway 23, and for Job M-1-P-5, 7.5 mi., Highway No. 49.

Bituminous Surface Treatment.—Comms. District of Columbia, Room 509 District

Bldg., Washington, D. C.—Bids June 24 for bituminous surface treatment.

Boilers.—Director of National Zoological Park, Washington, D. C.—Bids June 23 for installation of two heating boilers.

Brass Water Piping.—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.—Bids June 30 for new brass water piping, custom house, appraisers stores, court house, Wilmington, N. C.

Brick.—Comms., District of Columbia, Washington, D. C.—Bids June 24 on 1,000,000 rectangular vitrified brick.

Bridges.—Monroe, La.—See Construction News—Bridges, Culverts and Viaducts.

Bridge.—State Highway Dept., Austin, Tex.—Bids June 22 for rein. conc. bridge over Trinity River on Highway No. 10, Tarrant County; includes thirteen 42-ft. 6-in. deck girder spans, one 164-ft. 4-in. cantilever span (85 ft. center, 39-ft. 8-in. cantilever arms), conc. foundation piling, conc. bents and abutments, 40-ft. roadway, two 5-ft. sidewalks.

Building Material.—Purchasing and Contracting Office, Fort Sam Houston, Tex.—Bids June 23 for lumber, flooring, screen wire, springs, hasps and staples, hardware, sand, gravel, plaster, brick, glue, paints, window glass, etc. Cir. 74.

Cage (Eagle).—Director of National Zoological Park, Washington, D. C.—Bids June 23 for eagle flight cage.

Coal.—U. S. Engineer Office, Huntington, W. Va.—Bids June 23 for 3300 tons coal.

Coil Winding Machine.—Navy Dept., Bureau of Supplies and Accounts.—Bids June 23 for machine for winding radio, resistance, telephone transformer field and other electrical coils.

Cotton Padding.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids June 22 for cotton felt padding for laundry mangles, delivery Quantico, Va.; Sch. 1145.

Drawing Equipment.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids June 22 for drawing equipment.

Dredging.—U. S. Engineer Office, Norfolk, Va.—Bids June 30 for 59,585 cu. yds. dredging, James River at Richmond, Va.

Dredging.—U. S. Engineer Office, Trust Company Bldg., Galveston, Tex.—Bids June 26 for maintenance dredging in Intracoastal Canal between Galveston, Tex., and lower Matagorda Bay; in channel between Pass Cavallo and Aransas Pass; in channel across bar at mouth of Colorado River and in channel between Pass Cavallo and Port Lavaca.

Drills.—Navy Dept., Bureau of Supplies and Accounts, Washington, D. C.—Bids June 23 for floor and bench type belt driven drills.

Drill Press.—Navy Dept., Bureau of Supplies and Accounts, Washington, D. C.—Bids July 2 for motor driven drill press.

Electric Cable.—Bd. of Awards, Baltimore, Md.—Bids June 24 for electric cable for use in park system.

Elevator, Dumbwaiter.—Treasury Dept., Jas. A. Wetmore, Supvg. Archt., Washington, D. C.—Bids July 2 for elevator and dumbwaiter plant.

Engines (Gasoline).—U. S. Engineer Office, P. O. Box 1017, Memphis, Tenn.—Bids June 26 for three 20-25 B. H. P. gasoline engines. Cir. 613.

Engine Lathes.—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids July 2 for engine lathes, motor driven. Sched. 5908.

Fence.—U. S. Engineer Office, Jacksonville, Fla.—Bids June 22 for 1480 ft. galvanized wire fence, 1 gate, 123 posts. Cir. 743.

Filing Cabinets.—War Dept., Augusta Arsenal, Ga., Maj. Oscar Krupp.—Bids June 23 for four wooden blueprint filing cases, each

U. S. de Lavaud Pipe

HERE'S a pipe that is 25% stronger than pit cast pipe, lighter in weight, more economical to handle and easier to cut and tap.

These are the reasons why, during the past few years, Detroit, Michigan has specified and laid more than 800 miles of deLavaud Pipe—why within 8 years, American cities have put down over 10,000 miles of deLavaud Pipe.

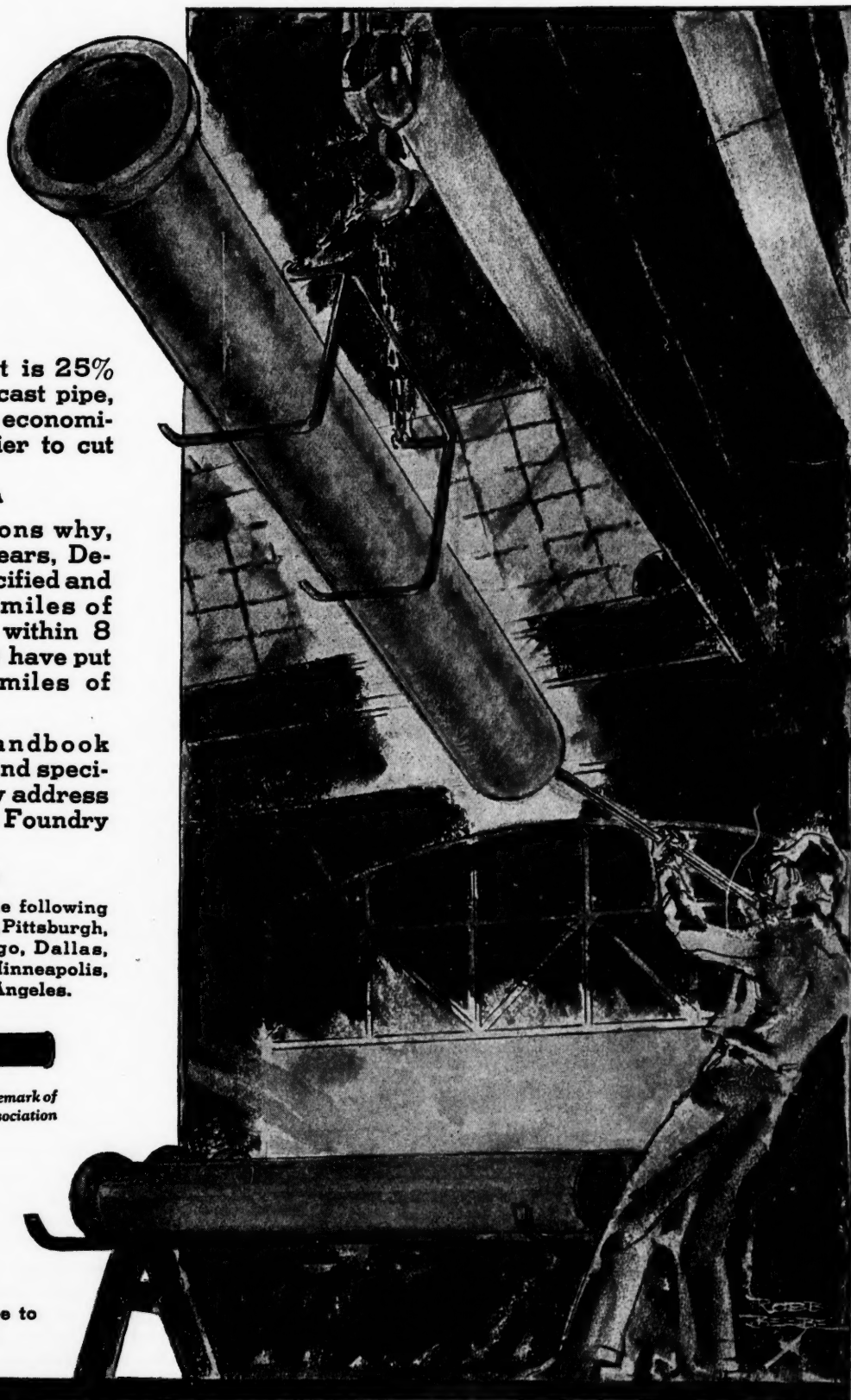
The deLavaud Handbook gives complete details and specifications. For free copy address United States Pipe and Foundry Co., Burlington, N. J.

Sales offices located in the following cities: New York, Philadelphia, Pittsburgh, Cleveland, Buffalo, Chicago, Dallas, Birmingham, Kansas City, Minneapolis, Seattle, San Francisco, Los Angeles.



Our pipe bears the "Q-check" trademark of The Cast Iron Pipe Research Association

Taking the newly cast pipe to the annealing furnace.



to consist of three 5-drawer sections with top and low sanitary base.

Fire Hose.—City Council, O. E. Padgett, City Clerk, Marianna, Fla.—Bids July 13 for 1000 ft. fire hose, 2½ in. diameter.

Generators.—Bd. of Public Service, Room 208, City Hall, St. Louis, Mo.—Bids June 30 for furnishing and erecting one 400 kw. direct current and one 200-kw. alternating current steam engine driven generators at Sanitarium Power House, St. Louis Water Works.

Grading, etc.—Dept. of Agriculture, Bureau of Public Roads, Willard Bldg., Washington, D. C.—Bids June 26 for 22.07 mi., embracing Sections C, D and E of Route No. 1, Shenandoah National Park, Va.; includes 97.6 acres grubbing and clearing, 196,043 cu. yds. unclassified excavation; 531,863 station yds. overhaul; 479.3 cu. yds. cement rubble masonry; 7258 lin. ft. 18-in., 670 ft. 24-in., 634 ft. 30-in., 138 ft. 36-in. corrugated metal pipe; 3800 lin. ft. rustic wood guard rail; 206,131 gal. asphalt.

Grinders.—Navy Dept., Bureau of Supplies and Accounts, Washington, D. C.—Bids June 23 for grinders, valve and pedestal type.

Hack Saw.—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids June 23 for power hack saw, gap type, motor-driven; Sched. 5009.

Heating, Electric Work.—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.—Bids June 29 for additions to heating system and electrical changes, post office and court house, New Orleans, La.

Heating Plant.—Constructing Q. M. Fort Monroe, Va.—Bids July 14 for heating plant for barracks at Langley Field.

Highway, Grading, Structures.—U. S. Dept. of Agriculture, Bureau of Public Roads, Thos. H. MacDonald, Chief, Washington, D. C.—Bids June 25 for 20.4 mi. highway, grading and structures in proposed Shenandoah National Park, Va.; involves approx. 80 acres clearing and grubbing, 293,000 cu. yds. unclassified excavation, 9500 cu. yds. tunnel excavation, unclassified; 16,641 cu. yd. borrow excavation, 566,562 station yds. overall, 5959 M ft. B. M. 6178 lin. ft. 18-in. corrugated metal pipe, 1174 24-in. corr. metal pipe, 844 lin. ft. 30-in. corr. metal pipe, 34 ft. 36-in. corr. metal pipe, 4800 lin. ft. rustic guard rail, 220,000 gal. asphalt oil applied.

Hospital Beds, Lockers.—Treasury Dept., Supply Division, Washington, D. C.—Bids June 22 for hospital beds and bedside lockers required during 6 months period ending Dec. 31, 1931. Cir. 9432.

Lathes.—Navy Dept., Bureau of Supplies and Accounts, Washington, D. C.—Bids June 23 for lathes and accessories.

Levees.—U. S. Engineer Office, Foot Prytania St., New Orleans, La.—Bids July 10 for 230,000 cu. yds. riverside enlargement, Poland Levee; 340,000 cu. yds. new earthwork, Cologne Bend Levee, both South Bank Red River, and 900,000 cu. yds. Australia Point Levee, Atchafalaya Front Levee District.

Lumber.—War Dept., Augusta Arsenal, Oscar Krupp, Maj., O. D., U. S. A., Augusta, Ga.—Bids June 22 for yellow pine, long or short leaf lumber.

Multiple Spindle Drill.—Navy Dept., Bureau of Supplies and Accounts, Washington, D. C.—Bids July 2 for multiple spindle drill, complete with motor and starting equipment.

Metal Cutting Saw.—Navy Dept., Bureau of Supplies and Accounts, Washington, D. C.—Bids June 23 for metal cutting saw machine.

Paving Breakers.—Office of Third Corps Area Engineer, 311 St. Paul Place, Baltimore, Md.—Bids June 20 for paving breakers and points.

Plate Clips.—War Dept., U. S. Engineer Office, 1006 McCall Bldg., Memphis, Tenn.—Bids June 24 for japanned plate clips.

Pile Clump Dikes, Revetment.—U. S. Engineer Office, 707 Postal Telegraph Bldg., Kansas City, Mo.—Bids June 29 for 14,800 lin. ft. standard pile clump dikes and about 6000 lin. ft. standard revetment, Missouri River at Weavers and Pomeroy Bends.

Pile Clump Dikes.—U. S. Engineer Office, 707 Postal Telegraph Bldg., Kansas City, Mo.—Bids June 27 for constructing about 5180 lin. ft. standard pile clump dikes in Missouri River at Isbell Reach, downstream from Bonnot's Mill, Mo.

Post Office.—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.—Bids June 26 for furnishing labor and materials and performing all work in construction of U. S. Post Office, Hallowell, Maine.

Propeller Balance Stand, etc.—Navy Dept., Bureau of Supplies and Accounts, Washington, D. C.—Bids June 23 for propeller balancing stand, benders, tube, and tinsmith's machines.

Refrigerating Equipment.—Bureau of Yards and Docks, Navy Dept., Washington, D. C.—Bids June 24 for refrigerating equipment consisting of motor-driven ammonia compressor, condenser, liquid receiver, brine cooler, oil and scale traps, motor-driven brine pump, safety devices and manual starting equipment, motor control and instrument panels, and complete piping systems and wiring for equipment; also materials for use in construction of cold storage rooms at Naval Station, Guantanamo Bay, Cuba; Specification No. 5322.

Roads, Sewers, Etc.—War Department, Office of Constructing Quartermaster, M. A. McFaddon, Maxwell Field, Montgomery, Ala.—Bids July 14 for construction roads, drains, sanitary sewers, water mains; information on application.

Road.—Navarro County, J. M. Tullis, Auditor, Corsicana, Tex.—Bids July 7½ mi. Navarro County, Cardinal Road No. 4, and for ¾ mi. Navarro County lateral road No. 4; includes 140,440 sq. yds. fine grading, subgrade and shoulders; jetting and ponding; 90,834 sq. yds. conc. pavement (macaroids); 188,044 pounds rem. seen, and 4690 lin. ft. wire mesh guard fence.

Roads.—Anderson County, J. B. Spearman, Supvr., Anderson, S. C.—Bids July 1 for 200,000 sq. yd. double bituminous treatment of approximately 19 mi. roads; A. H. Patterson, County Engr.

Sewers.—City of Tuscaloosa, Ala., Norfleet Harris, Pres., Bd. of Commrs.—Bids July 14 for sanitary sewer construction, including: Sewer pipe—23,916 lin. ft. 30 in.; 832 ft. 24 in.; 10,625 ft. 21 in.; 91 ft. 24 in.; 4,568 ft. 18 in.; 10,027 ft. 16 in.; 9,763 ft. 12 in.; 288 ft. 12 in.; 10,923 ft. 10 in.; 787 ft. 8 in.; cast iron pipe—168 ft. 24 in.; 16 ft. 21 in.; 32 ft. 18 in.; 48 ft. 15 in.; 188 ft. 12 in.; 352 ft. 10 in.; 70 manholes; two 24x6-in. cast iron trees; two 6-in. valves; 5,000 ft. B. M. lumber in place; 100 cu. yds. earth excavation; 10 cu. yds. Class C conc.; 10 cu. yds. Class B. conc.

Sprinkler System.—Constructing Q. M. Randolph Field, Tex.—Bids June 30 for installation of sprinkler irrigation system.

Street Improvement.—Bd. of Public Service, Room 208, City Hall, St. Louis, Mo.—Bids June 30 for improving Mimika Ave., and reconstructing Wyoming St. and Taylor Ave.

Street.—Bd. of Public Service, Room 208, City Hall, St. Louis, Mo.—Bids June 23 for reconstructing Westminster Place, Vandeventer Ave. to Boyle Ave.

Structural Steel, Aluminum Cable.—Pennsylvania Railroad, C. E. Walsh, Purchasing Agent, Room 415 No. 15 N. 32nd St., Philadelphia.—Bids June 23 for Contracts 16-1931 Structural Steel and 17-1931 Aluminum Cable.

Terra Cotta Pipe.—Commrs., District of Columbia, Washington, D. C.—Bids June 24 on 6-in. to 24-in. terra cotta pipe.

Trucks.—Veterans Bureau, Purchase and Issue Division, Washington, D. C.—Bids June 19 for one 1½-ton truck with platform body and removable stake and slat sides; and one 1½-ton truck with express body.

Ties.—Office of Third Corps Area Engineer, 311 St. Paul Place, Baltimore, Md.—Bids June 22 for Southern yellow pine standard and switch railroad ties, creosote treated; Cir. 38-31.

Ventilating Equipment.—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.—Bids July 6 for furnishing labor and materials and performing work for fan room and ventilating equipment at Owensboro, Ky., post office.

Woodworking Saws.—Navy Dept., Washington, D. C.—Bids June 23 for woodworker's and woodworking saws, swing and universal, motor driven.

Southern Natural Gas Convention

Papers and discussions on phases and factors in the natural gas industry featured the convention of the Southern Natural Gas Association, which closed late last week at Chattanooga. New Orleans was selected for the next session.

Both technical and practical lines were covered by F. McDonald Biddison, consulting engineer of the Southern Natural Gas Company, Birmingham, in a paper entitled, "Conversion Factors." A merchandising bill in the Tennessee legislature was discussed by J. R. Armstrong, a lawyer of Memphis, and R. M. Conner of the American Gas Association spoke on testing laboratories.

The officers elected were: President, E. N. Avengo, New Orleans; first vice-president, J. J. Brennan, Memphis; second vice-president, J. Gates, Atlanta; secretary-treasurer, G. E. Schlatter, Birmingham; directors, B. B. Ferguson, Virginia; John W. Haven, Winter Haven, Fla.; H. Gee, Raleigh, N. C., and George Bark, Birmingham, the hold-over directors being E. S. Dickey, Baltimore, R. E. Chew, Birmingham; R. C. Hoffman, Atlanta; J. H. White, Birmingham, and A. J. Goss, Chattanooga.

\$1,000,000 Paper Plant Contract

Fredericksburg, Va.—The Hughes-Foulkrod Co., Philadelphia, Pa., has been awarded contract by the Sylvania Industrial Corporation, New York, to erect a \$1,000,000 addition to the latter's big plant here for the production of "Sylphrap," a transparent cellulose paper. The new addition will consist of three buildings and is expected to be ready for use by September 1. With the added facilities, the capacity of the plant will be doubled and the number of employees increased from 400 to 550. The Ballinger Company, Philadelphia and New York, are the engineers and architects.

\$2,500,000 Endowment and Buildings

Davidson, N. C.—The board of trustees of Davidson College have adopted a centennial program for the college involving a building and endowment program of \$2,500,000, to be completed in 1936. New buildings involved include an infirmary, library, two dormitories, field house, social and religious center, enlarged chemical laboratory, new church and other improvements to cost \$870,000. Dr. R. A. Dunn, Charlotte, N. C., is chairman of the board.

Bonds Command Premium

Calvert County Commissioners, Prince Frederick, Md., sold \$300,000 road bonds and \$45,000 school bonds, both bearing an interest rate of 4½ per cent, to Strother, Brogden & Co., the Maryland Trust Company and Mackubin, Goodrich & Co., all of Baltimore, at 100.538 and 102.608, respectively.



Another Hardaway Bridge

The Pee Dee River Bridge near Rockingham, N. C. built for the North Carolina State Highway Department.

WHEN State Highway Departments, Municipalities and Public Officials entrust the construction of bridges to us they know that our experience of 20 years of building bridges in the South and Southwest will be their guarantees of satisfactory results.

Why not get used to Hardaway Service. Wire or 'phone your problems and our engineering department will be glad to cooperate with you.

Hardaway Contracting Co. - - - Columbus, Ga.

Northern Hard Rock Maple Flooring

Holt Hardwood Co., Oconto, Wis.

MEMBERS OF MAPLE FLOORING MANUFACTURERS ASSOCIATION

CEMENT-GUN CONSTRUCTION CO.
CONCRETE

16 years experience placing sand and cement mortar with compressed air. Call our Engineering or Contracting Department for service.

537 S. Dearborn St. CHICAGO Oliver Building PITTSBURGH Grand Central Terminal NEW YORK




We announce many new improvements in

COTTON GINNING MACHINERY
and HEAVY DUTY OIL ENGINES

Write for Details

CONTINENTAL GIN CO., 4600 4th Avenue So. Birmingham, Ala.

THE CUTLER MAIL CHUTE

Is backed by—

An experience of fifty years.
A factory equipped and operated for our own work exclusively.
A force of experienced erectors in the field.
A determination to keep our product and service up to the highest possible standard.

Correspondence Invited.

CUTLER MAIL CHUTE COMPANY
GENERAL OFFICES AND FACTORY
ROCHESTER, NEW YORK

THE GEORGIA MARBLE COMPANY

Producers and Manufacturers of

GEORGIA MARBLE

Tate, Georgia

Atlanta Chicago Cleveland Dallas New York

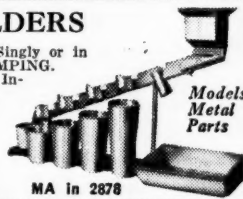
SPECIAL DEVICE BUILDERS

We Build Devices in Their Entirety, Either Singly or in Quantity. **TOOLS and DIES—METAL STAMPING.** Experimental Work—Special Manufacturing. Inventions Made Practical for Quantity Production.

GERDING BROS.

Mechanical Productionists

Pearl and Vine Sts., CINCINNATI, OHIO. MA in 2878



FINANCIAL NEWS

Bond Issues Proposed

Ala., Mobile—Mobile County may vote in August on bonds for 12 paving projects; John R. Peavy, County Road Engr. 5-14

Ala., Montgomery—Gov. B. M. Miller proposes \$25,000,000 bonds for highways and \$20,000,000 bonds to liquidate state's floating debt.

Ark., Little Rock—State of Arkansas, Roy V. Leonard, Treas., open bids June 29 for \$1,500,000 general obligation bonds; 5%.

Ark., McGehee—City defeated \$15,000 bonds for pumper and fire station. 4-23

Ga., McDonough—City, W. J. Greer, City Clerk, offer for sale within 30 days \$35,000 street improvement bonds.

La., Bunkie—City voted \$50,000 street paving bonds.

La., Jonesboro—Jackson Parish School Bd. called election June 30 on \$150,000 school bonds in Hodge-Jonesboro school district No. 23; Paul F. Stinson, Pres.

La., Slidell—City, Mayor and Bd. of Aldermen, open bids July 1 for \$40,000 bonds of Sewage District No. 1, G. B. Harrison, Clerk.

Md., Upper Marlboro—Town, Bird H. Dolby, Town Atty., authorized sale of \$80,000 bonds; private sale.

Miss., Saucier—Saucier Consolidated School Dist. voted \$20,000 school bonds.

Miss., Sturgis—Sturgis Consolidated School Dist. voted \$30,000 school bonds.

Md., Snow Hill—City, John O. Byrd, opens bids June 23 on \$25,000 water, street and sewer bonds.

Mo., Branson—City, J. M. Thompson, Sec. School Trustees, votes June 20 on \$25,000 school bonds.

Mo., Independence—Jackson County sell road bonds in about six weeks. 6-4

Okla., Duncan—City, Bd. of Education, call election about Oct. 1 on \$180,000 bonds for high school and municipal auditorium. 5-28

S. C., Beaufort—Beaufort County votes July 7 on \$70,000 courthouse and jail bonds.

S. C., Columbia—State of South Carolina, I. C. Blackwood, Gov., J. H. Scarborough, Treas., open bids July 1 for \$5,000,000 State Highway Certificates of Indebtedness; \$1000 denom.; bidders name interest rate.

S. C., Greenville—Greater Greenville Sewer Comsn., E. D. Fry, Supt., to advertise for bids on \$745,000 bond issue to provide funds for lateral sewers in suburban districts.

Tenn., Gallatin—Sumner County, Harvey L. Brown, Clerk, receives bids July 6 for \$150,000 coupon school building and equipment bonds; \$1000 denom., 4½, 4¾ or 5% interest.

Tex., Brownsville—City, John P. Maher, Sec., Brownsville Independent School Dist., votes June 29 on \$80,000 bonds. 6-4

Tex., Edna—Jackson County votes July 3 on \$1,150,000 highway bonds.

Tex., Freeport—City, E. C. King, City Sec., receives bids July 1 for \$15,000 5½% semi-annual refunding bonds.

Tex., Lagrange—Fayette County voted \$25,000 road Dist. No. 11 bonds; Thos. W. Lueders, Judge.

Tex., Longview—Gregg County Independent School Dist., H. L. Foster, Supt. of Schools, votes June 30 on \$175,000 bonds for junior high school.

Tex., Panhandle—Carson County Comms. Court, Frank Elston, Judge, plans selling \$250,000 road bonds.

Tex., Port Arthur—City Comsn. approved ordinance providing for issuance of \$300,000 bonds to complete and maintain seawall; last of \$2,000,000 bonds voted in 1929.

Tex., Refugio—City, J. O. West, Mayor, plans paving; Hawley, Freese & Nichols, Engrs., 417 Capps Bldg., Fort Worth.

Va., Danville—City, C. B. Strange, Auditor and Clerk, offer for sale on July 1 \$160,000 refund bonds; 4½%, denom. \$1,000.

Va., Narrows—Town Council endorsed proposal to vote July 21 on \$22,500 bonds for refunding present bonded indebtedness; E. D. Coburn, Mayor.

Bond Issues Sold

Ark., North Little Rock—North Little Rock Special School Dist. sold \$60,000 refunding bonds to National Securities Co., Little Rock, at par.

Ga., Greensboro—Woodville Consolidated School District of Greene County sold \$12,000 5½% school bonds to J. H. Hillsman & Co., Inc., Atlanta.

La., New Orleans—Comsn. Council passed ordinance accepting amended bid of American Bank & Trust Co., Whitney Trust & Savings Bank, Whitney National Bank, Canual Bank & Trust Co., Interstate Trust & Banking Co., and Hibernia Securities Co., for \$444,000 paving certificates, excluding amount for paving Montegut St., between St. Claude Ave. and Galvez St. 5-28

Md., Annapolis—State of Maryland, John M. Dennis, Treas., sold \$1,000,000 4½% bridge bonds to Safe Deposit and Trust Co., Baltimore. 4-16

Md., Chestertown—National City Co., Baltimore and New York, purchased \$200,000 Kent County, 4½% road bonds.

Md., Prince Frederick—Calvert County Comms., sold \$300,000 road bonds and \$45,000 school bonds at 100.538 and 102.608, respectively, to Baltimore group composed of Strother, Brogden & Co., Maryland Trust Co. and MacKubin, Goodrich & Co.; 4½%. 5-21

Md., Rockville—Montgomery County, Berry E. Clark, Clk., sold \$200,000, 4½% court house bonds at 104.919 to Harris, Forbes & Co., New York and Baltimore. 5-21

Md., Salisbury—Wicomico County sold \$110,000 school bonds and \$90,000 script retiring bonds at premium of \$9,324 to Union Trust Co., Baltimore. 5-14

Mo., La Due—City sold \$40,000 4% semi-annual fire station bonds to Stix & Co., St. Louis.

N. C., Raleigh Township, Raleigh—Township sold \$50,000 revenue anticipation notes to North Carolina Bank Trust Co., Raleigh, as 6's at par.

Okla., Sweetwater—Taylor-White Co., Oklahoma City, recently purchased \$11,000 school bonds of Beckham and Roger Mills Counties Joint Union Graded School District.

Tenn., Chattanooga—City, E. D. Bass, Mayor, sold \$47,482 sidewalk and paving bonds to First Securities Co., at premium of \$1918.

Tenn., Jackson—Madison County sold \$100,000 4½% \$1000 denom. refunding bonds to Little, Wooten & Co., Jackson.

Tex., Andrews—Andrews County sold \$100,000, 5½% road bonds to H. C. Burt & Co., Houston.

Tex., Hallettsville—Lavaca County sold \$46,000 5% serial road bonds to Schwartz Brothers, Schulenburg; \$32,000 Road Districts Nos. 1 and 3 at par; \$14,000 Road District No. 4 at \$60 premium.

Va., Richmond—City, L. B. Edwards, Comptroller, sold \$1,000,000 bonds for \$1,053,375 to Harris, Forbes & Co., Emanuel & Co., both New York, Baker, Watts & Co., Baltimore, and Frederick E. Nolting & Co., Richmond; or approximately on a 3.95 basis; 4½%; \$100,000 street; \$350,000 sewer; \$300,000 James River Improvement; \$250,000 curb and gutter. 6-4

Building & Loan Associations

Tex., Houston—Stockholders of State Building and Loan Assn., and Gibraltar Savings and Building Assn., 1201 Capital St., plan merger expected to be effective July 1 on consolidation of the two companies.

New Financial Corporations

Ga., Macon—City Bank and Trust Co., capital \$110,000, chartered; R. H. Kingman, Mr., J. M. Heard.

Md., Baltimore—Baltimore-Gillet Co., to be formed by consolidation of Gillet & Co., investment bankers, and The Baltimore Co., securities company owned by stockholders of Baltimore Trust Co.; Donald Symington, to be chairman of board; Charles B. Gillet, president.

Mo., Clarence—Shelby County Investment Corp., capital \$10,000, incorporated; J. O. Callison, Carl C. Adams.

Mo., Springfield—First National Bond Corp., \$100,000, incorporated; R. W. Catlett, R. F. D. 3.

Tex., Blooming Grove—First National Bk.,

capital \$25,000, organized; take over assets of Citizens National Bank; L. I. Griffin, C. L. Tillman, directors.

Tex., Corsicana—First National Bank of Corsicana, capital \$600,000, formed by consolidation of First National Bank, capital \$500,000, and Corsicana National Bank, capital \$300,000.

Va., Hopewell—Hopewell Securities Corp., capital \$100,000, chartered; Carl H. Boschen, Pres., Richmond; Hedlin and Adams, Attorneys, Hopewell.

Mo., Kansas City—A. C. Stewart purchased assets of Kansas City Joint Stock Land Bank, which is to be succeeded by Phoenix Joint Stock Land Bank, E. C. Aldwell, Mgr.

First National Bank, Gulfport, Miss., reorganized with capital of \$500,000; Dr. J. J. Harry, Pres.; F. S. Hewes, J. A. Parker, J. L. Berry and P. A. Stilwell, vice-presidents.

Ely J. Perry, Robert H. Rouse, Roger Brooks and John G. Dawson, Kingston, N. C., interested in organizing national bank.

American Bank Reporter.—The 1931 edition of the American Bank Reporter and Attorney List has come from the press of the Steurer Publishing Company, New York. This edition contains a complete designation of banks and trust companies of the United States, according to the numerical system of the American Bankers Association. The price of the directory is \$10.00.

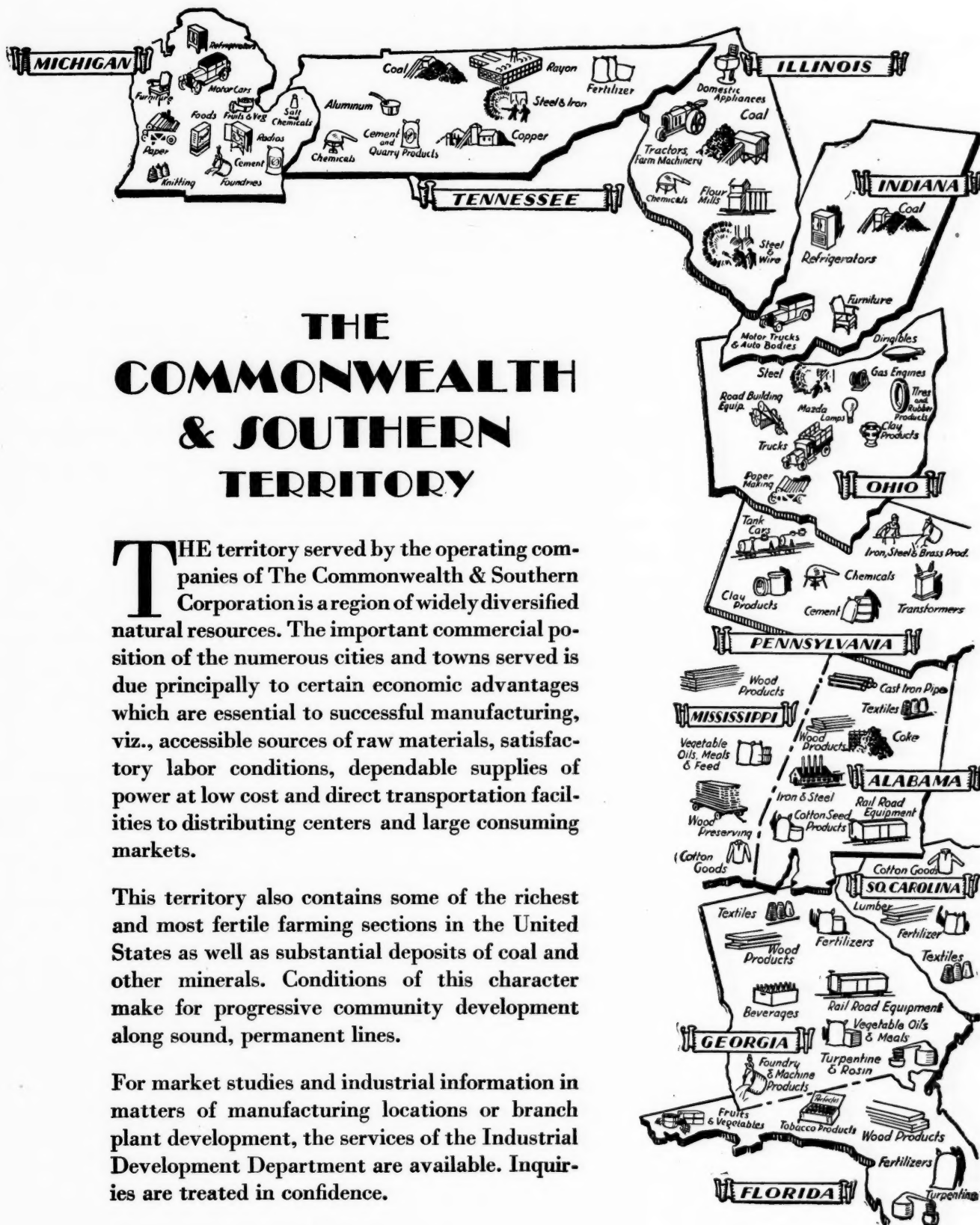
American Power and Light

For the twelve months ended March 31, 1931, operating revenues of subsidiaries of the American Power & Light Company, New York, amounted to \$86,122,700, as compared with \$88,406,792 for the 12 months ended March 31, 1930. Net revenues from operation were \$44,748,548, as against \$45,590,856, and balance applicable to American Power & Light, \$18,937,185, as against \$21,473,637. After expenses, dividends, etc., the balance of the American Power & Light Company was \$4,051,127, as compared with \$8,038,752.

Price Recovery Aid to Business

"The action of the National Foreign Trade Convention, in singling out an advance in commodity prices as the most essential factor in bringing about a restoration of trade, I regard as the most significant development of that gathering," states Lewis E. Pierson, chairman of the board of the Irving Trust Company, New York. "No fact in business is more clearly established than that rising prices tend to stimulate activity. When prices are falling, buyers of basic commodities for manufacture are inclined to delay purchases in hope of still lower prices. The upward turn is the signal for renewed buying and an increase in business and manufacturing."

The Baltimore Country Club, Heyward E. Boyce, president, has commissioned the office of Joseph Evans Sperry, Baltimore, to prepare plans and specifications for a \$250,000 club building to replace its building burned early this year.



THE COMMONWEALTH & SOUTHERN TERRITORY

THE territory served by the operating companies of The Commonwealth & Southern Corporation is a region of widely diversified natural resources. The important commercial position of the numerous cities and towns served is due principally to certain economic advantages which are essential to successful manufacturing, viz., accessible sources of raw materials, satisfactory labor conditions, dependable supplies of power at low cost and direct transportation facilities to distributing centers and large consuming markets.

This territory also contains some of the richest and most fertile farming sections in the United States as well as substantial deposits of coal and other minerals. Conditions of this character make for progressive community development along sound, permanent lines.

For market studies and industrial information in matters of manufacturing locations or branch plant development, the services of the Industrial Development Department are available. Inquiries are treated in confidence.

Address

INDUSTRIAL DEVELOPMENT DEPARTMENT

THE COMMONWEALTH & SOUTHERN CORPORATION

20 PINE STREET, NEW YORK CITY, N. Y.

INDUSTRIAL NEWS

Universal Machine Plant Offered

By order of stockholders of the Universal Machine Co., Bowling Green, Ohio, a division of the Superior Universal Products Company, makers of drop forgings and universal joints, the plant of the company will be offered at public auction at 10.30 A. M., June 25, including land and buildings, machinery and equipment, tools, etc. The sale will be conducted on the premises and everything sold piece by piece, land and buildings to be offered first, followed by machinery and equipment in numerical order as shown in a catalog. The sale is under the management of the Industrial Plants Corporation (of Ohio), Columbian Building, Columbus, Ohio.

Ryerson Buys Reed-Smith Company

In 1924 Joseph T. Ryerson & Son, Inc., Chicago, handlers of iron, steel and machinery purchased a part interest in the Reed-Smith Company, Milwaukee, Wis., offering a steel-service to the Milwaukee industrial area. The Ryerson company has now purchased the remaining stock and the firm becomes the Reed-Smith plant of Joseph T. Ryerson & Son of Wisconsin. The deal will strengthen the Ryerson company's chain of warehouses, located in ten principal steel consuming areas of the country, and marks a progressive step in its activities. The Ryerson company is one of the largest independent steel-service organizations in the country.

Hutto Engineering Changes

The Hutto Engineering Company, Inc., Detroit, Mich., announces the following changes in personnel in connection with reorganization of the company: Joseph A. Carlin, formerly receiver, has been appointed general manager; Frank J. Jeschke, sales engineer; Ben O. Isom, factory representative for Detroit and Chicago territories; William F. Toepfer, factory representative for Philadelphia, New York and Boston territories, and J. L. Navin, field engineer for Cleveland, Pittsburgh, Buffalo, Rochester and Syracuse territories. James G. Young, who handled sales until June, plans a tour of Europe and the Antipodes, after which he will locate in Europe as the Hutto Engineering overseas representative.

Natural Gas for Two Georgia Enterprises

The Georgia Natural Gas Corporation affiliated with the Southern Natural Gas Corporation, Birmingham, Ala., has signed a contract with Edgar Bros., Inc., McIntyre, Ga., manufacturers of kaolin, to supply the latter with natural gas for fuel requirements. Approximately \$30,000 is being expended to lay pipes and install meters and burning equipment for 1428 rated horsepower boiler installations.

A contract has also been signed by the Georgia company to supply natural gas to the Oconee Clay Products Co., Milledgeville, Ga., manufacturers of sewer pipe, roofing and other products. Lines extensions, installation of meters and utilization equipment are now being provided by the gas company at a cost of \$15,000. Delivery of the gas for both enterprises will be effected through the transmission facilities of the Southern Natural Gas Corporation.

Commonwealth and Southern Meeting

The annual meeting of stockholders of the Commonwealth and Southern Corporation will be held July 14 at the principal office of the corporation at 100 west Tenth street, Wilmington, Del. The purpose of the meeting is to receive and act upon the report of the president and chairman for the year 1930, to elect a board of directors, and approve and ratify other acts and proceedings.

Coal Yard and Fuel Oil Business Offered

A large and well equipped coal yard, with a fuel oil business, the property of the Southern Coal Company, Asheville, N. C., will be offered at public auction July 6. Details regarding the properties and sale may be obtained from J. G. Deshler, Asheville, receiver of the Southern Coal Company.

Trade Literature

Chain-Link Fence.—Dietrich Brothers, Baltimore, Md., are distributing a folder devoted to the Continental Chain-Link fence, described as "stanch, trusty and alert." This fence is said to be up-to-date in development, new in style, correct in detail, attractive in appearance and of unusual durability. It is made of open-hearth process "copper-bearing steel," the finished fabric being heavily coated by dipping in molten zinc. It is manufactured by the Continental Steel Corporation, Kokomo, Ind.

Norfolk and Western Magazine.—For the month of June, this publication of the Norfolk & Western Railway Company carries a number of interesting features including an illustrated description of the \$1,000,000 passenger terminal at Portsmouth, Ohio, now ready for use; this includes in its area a new station and office building, 17 miles of track, new overhead bridge, underpass, express building, two interlocking plants, coach yard and building, central heating plant, water tank, turntable and other facilities.

American Cement Directory.—The 1931 edition of the American Cement Directory is being distributed by the Bradley Pulverizer Company, Boston, Mass., with works at Allentown, Pa. This company manufactures mills for pulverizing cement rock and clinker, ores, phosphate rock, coal, etc., and in presenting the directory it calls attention to "improvements in grinding practice brought about by recent adoption of closed-circuit operation in many cement plants."

Advertising.—Under the caption "Aesop Glim," Prentice-Hall, Inc., New York, have published a 237-page volume devoted to the business of advertising, the book concerning itself "much more with underlying principles than with technique." In addition to the Foreword, contents of the publication are divided into four general divisions: Preparing Advertising, Reproducing Advertising, Market Surveys, and Miscellaneous Diatribes. The subject matter, it is stated, has appeared somewhat in the same order in Printer's Ink and in Printer's Ink Monthly.

Triplex Force Pumps.—The Domestic Engine & Pump Co., Shippensburg, Pa., has issued a new bulletin, RPU-31, devoted to new models of high pressure triplex force pumps, designed especially for road builders and oil producing companies. These units are the R-80 and R-125 road pumps, equipped with the "Domestic" model 56 triplex pump.

Expansion Loops.—Tube-Turns, Incorporated, Louisville, Ky., manufacturers of seamless drawn fittings for welded piping, have issued a bulletin devoted to design data for expansion loops made with Tube-Turns and straight pipe. The publication, designated as Bulletin 106, should be of interest and value to engineers.

Mercury-Arc Rectifiers.—The Westinghouse Electric & Manufacturing Company has issued circular 1907, devoted to a steel tank mercury-arc rectifier, which converts alternating to direct current over wide ranges of both voltage and current. This equipment is designed especially to supply power for electric production systems, although it has other industrial applications.

Austin-Western Graders.—A folder issued by the Austin-Western Road Machinery Co., Chicago, illustrating and describing several types of Austin-Western graders, points to a number of "perfected essentials" in design and construction of these machines, including precision engineering, hot riveted construction, roller bearings; rack and pinion, worm or screw lifts; scarifier attachments, back slopers, etc.

LCODE Prospectus.—A Joint Committee on Telegraph Code, representative of the National Electrical Manufacturers Association, New York, and other organizations of the electrical industry, has issued a broadside to show how industry may save 40 to 70 per cent in the cost of telegraphic communication after September 1. The LCODE prospectus, "Realizing an Idea for the Electrical Industry," is designed for use in the entire electrical field.

Dustless Coal.—Literature issued by the Dow Chemical Company, Midland, Mich., discusses Koltreat Calcium Chloride, a product of that company utilized for the treatment of coal and coke to eliminate dust. In the flake form the product is supplied in 400-pound air-tight steel drums and 100-pound moisture proof bags, while the solid form is furnished in 700-pound air-tight steel drums and the liquid in tank cars of 7000 to 10,000 gallons capacity.

Water Works Pumps.—A leaflet distributed by the De Laval Steam Turbine Company, Trenton, N. J., describing De Laval pumps at Ross Station, Pittsburgh, Pa., outlines the progress made in water works pumps since 1913. In that year the De Laval organization installed what is said to have been the first large geared turbine-driven centrifugal water works pump built in the United States. This unit ran almost continuously from the time of its installation until two new De Laval turbine-driven centrifugal pumps were put into service in 1929, one delivering 100,000,000 gallons daily and the other 50,000,000 gallons against a head of 57 feet.

More Uses for Steel

In "a million-ton challenge to the steel industry," the American Institute of Steel Construction cites the following "new opportunities" opened "through research and promotion": Battledock steel plate floor; steel frames and floors for residences; the "Armour" steel road-guard; steel dams; steel H-columns for piling, and steel exterior walls of buildings. "New markets for structural steel demand development," it adds.

As "good business ahead" for the structural steel industry, the Institute presents "more than \$7,000,000,000 in

public and private construction." In the past, the statement says, production has been the problem; now it is marketing. A series of educational bulletins is being issued to the industry by the American Institute of Steel Construction, from its office at 200 Madison avenue, New York.

Premium for \$1,000,000 Bonds

An issue of \$1,000,000 Maryland bonds, bearing an interest rate of 4½ per cent, has been purchased by the Safe Deposit and Trust Company, Baltimore, at a price of 106.775056. According to records of the State Treasurer, this is said

to be the highest figure at which any bond offering of the state has been purchased.

Export Aluminum Paint Primed Lumber

The first export consignment of aluminum paint primed lumber of the Brooks-Scanlon Corporation, Foley, Fla., was shipped on May 27 to five different customers in the West Indies. The orders were placed by Tony Garcia of the Dantzer Lumber & Export Co., Brooks-Scanlon export agents.

HERE YOU FIND COOPERATION and CONSERVATISM

which is proving good for both borrowers and depositors, and may be called the keystone of our success.

BALTIMORE COMMERCIAL BANK

GWYNN CROWTHER, President

26 South Street, Baltimore, Md.

Capital and Surplus \$1,350,000.00

Member Federal Reserve System

WE extend the facilities of our organization to those desiring information or reports on companies with which we are identified.

Electric Bond and Share Company

Two Rector Street

New York

Manufacturers

You are invited to utilize our industrial and engineering services on factory establishment or relocation. Complete reports on industrial advantages in areas served by our properties . . . All negotiations confidential and gratis. Address Industrial Development Department.

Associated Gas and Electric System

61 Broadway



New York City

SOUTHERN TEXTILE SECURITIES

A. M. LAW & COMPANY

Established 1892

Spartanburg, S. C.

W. O. GAY H. D. MONTGOMERY G. C. DEMOREST

CITY AND COUNTY NOTES

COMMERCIAL PAPER

COLLATERAL LOANS

W. O. GAY & CO.

Est. 1894

27 William Street, New York

53 State Street, Boston

1600 Walnut Street, Philadelphia

THE OSCAR T. SMITH & SON CO.

Manufacturing

BANK AND COMMERCIAL STATIONERS

407-9-11 E. Saratoga Street

BALTIMORE, MD.

CHARACTER

QUALITY

— SERVICE —

YOUNG & SELDEN COMPANY

MANUFACTURING

Bank and Commercial Stationers

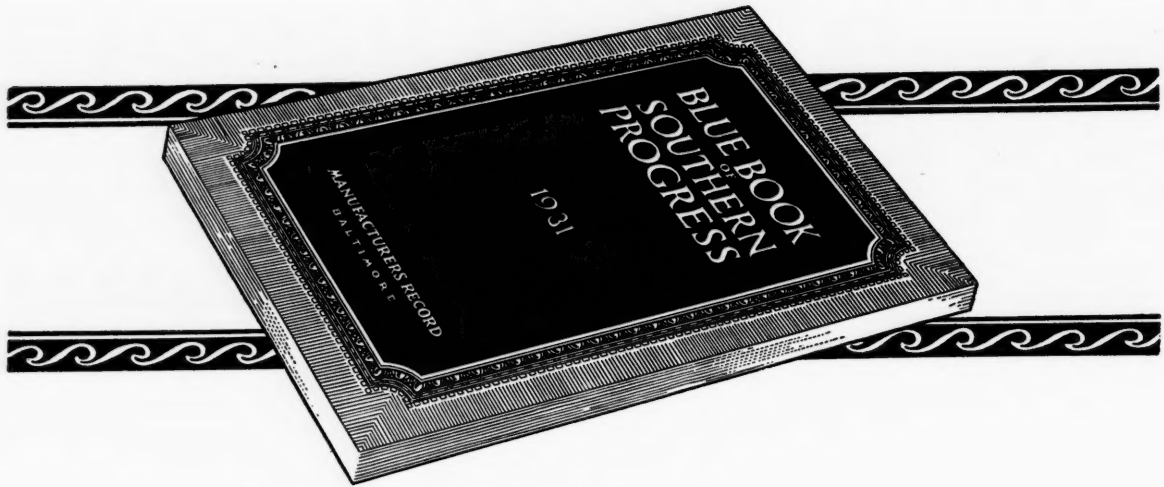
BALTIMORE, MD.

We Buy Bonds

City, County, School and Road from Municipalities and Contractors

WRITE

THE PROVIDENT SAVINGS BANK & TRUST CO.
CINCINNATI OHIO



Now Ready for Distribution

THE annual Blue Book of Southern Progress has a wide circulation among the country's leading executives, professional men, railroads, public utility operating and holding companies, banks, bond houses, public officials in states, counties and municipalities, and among commercial and business organizations generally.

The 1931 edition, now being distributed, presents the latest figures available by states and industries for the purpose of comparing present activity in the South with the accomplishment of former years. No other publication condenses into such compact readable form the vast amount of information that appears in this annual publication recognized as the standard, statistical reference book of the South and Southwest.

Price 50 cents (postpaid)

Special Price
on Bulk Orders

1000 or more 30c per copy
500 or more 40c per copy

Plus carrying charges

**Manufacturers
RECORD**

Established 1882

Baltimore :: Maryland



PROPOSALS

BOND ISSUES

BUILDINGS

PAVING

GOOD ROADS



Bids close June 19, 1931.

U. S. Engineer Office, Mobile, Ala.—Sealed bids, in duplicate, subject to the conditions contained in the specifications, will be received until 11 o'clock A. M., June 19, 1931, and then publicly opened, for furnishing all labor and materials and performing all work of dredging, approximately 1,070,000 cubic yards of material in Mississippi Sound, Bay of Biloxi and Back Bay, at Biloxi, Miss. Further information on application.

Bids close June 29, 1931.

TREASURY DEPARTMENT, office of the supervising architect, Washington, D. C., June 1, 1931.—SEALED BIDS in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., June 29, 1931, for furnishing all labor and materials and performing all work for plumbing and heating changes at the U. S. post office, Jellico, Tenn. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications may be obtained from the custodian at the building or at this office, in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close June 29, 1931.

TREASURY DEPARTMENT, office of the supervising architect, Washington, D. C., June 10, 1931.—SEALED BIDS in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., June 29, 1931, for furnishing all labor and materials and performing all work for additions to heating system and electrical changes in the U. S. post office and court house, New Orleans, La. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications may be obtained from the custodian at the building or at this office, in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close June 24, 1931.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., June 5, 1931.—SEALED BIDS in duplicate subject to the conditions contained herein will be publicly opened in this office at 3 p. m., June 24, 1931, for furnishing all labor and materials and performing all work for relocating two boilers and other work incident to the construction of a vault in the north court of the U. S. Treasury, Washington, D. C. Time of completion and cost will both be considered in award of contract. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931, (Public No. 798). Drawings and specifications may be obtained from this office in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close July 1, 1931.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., June 3, 1931.—SEALED BIDS, in duplicate subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., July 1, 1931, for furnishing all labor and materials and performing all work for the construction of the U. S. post office, etc., at Lamar, Mo. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding three sets may be obtained at this office in the discretion of the supervising architect by any satisfactory general contractor, and provided a deposit of \$15.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

GENERAL INFORMATION

About Proposal Advertising in Manufacturers Record

PUBLICATION DAY: Thursday.
FORMS CLOSE: 10 A. M. Tuesday.

When too late to send copy by regular mail to reach us by 10 A. M. Tuesday, forward by night letter or air mail when possible

THE DAILY CONSTRUCTION BULLETIN OF THE MANUFACTURERS RECORD

Published every business day, gives information about the industrial, commercial and financial activities of the South and Southwest.

The Daily Construction Bulletin can be used to advantage when copy cannot reach us in time for publication in the Manufacturers Record before bids are to be opened or when daily insertions are necessary to meet legal requirements.

The rate is the same for both publications—35 cents a line each insertion.

Bids close July 6, 1931.

TREASURY DEPARTMENT, office of the supervising architect, Washington, D. C., June 12, 1931.—SEALED BIDS, in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., July 6, 1931, for furnishing all labor and materials and performing all work for the construction of the U. S. post office, etc., at Rossville, Ga. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding three sets, may be obtained at this office, in the discretion of the supervising architect, by any satisfactory general contractor, and provided a deposit of \$15 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

Bids close July 7, 1931.

TREASURY DEPARTMENT, office of the supervising architect, Washington, D. C., June 12, 1931.—SEALED BIDS, in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., July 7, 1931, for furnishing all labor and materials and performing all work for the construction of the U. S. post office, etc., at Sandersville, Ga. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding three sets, may be obtained at this office, in the discretion of the supervising architect, by any satisfactory general contractor, and provided a deposit of \$15.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

Bids close July 6, 1931.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., June 11, 1931.—SEALED BIDS in duplicate subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., July 6, 1931, for furnishing all labor and materials and performing all work for the construction of the U. S. post office, etc., at Madison, Ga. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding three sets, may be obtained at this office in the discretion of the supervising architect by any satisfactory general contractor, and provided a deposit of \$15 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

Bids close June 26, 1931.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., June 1, 1931.—SEALED BIDS, in duplicate subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., June 26, 1931, for furnishing all labor and materials and performing all work for the construction of the U. S. post office, court house, custom house, etc., at Key West, Fla. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and Specifications, not exceeding three sets, may be obtained at this office in the discretion of the supervising architect by any satisfactory general contractor, and provided a deposit of \$25.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

Bids close June 29, 1931.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., June 9, 1931.—SEALED BIDS in duplicate subject to the conditions contained herein will be publicly opened in this office at 3 p. m., June 29, 1931, for furnishing all labor and materials and performing all work for new brass water piping, heating and plumbing changes in the U. S. post office, Florence, Ala. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931, (Public No. 798). Drawings and specifications may be obtained from the custodian at the building or at this office in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close June 30, 1931.

TREASURY DEPARTMENT, office of the supervising architect, Washington, D. C., June 11, 1931.—SEALED BIDS in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., June 30, 1931, for furnishing all labor and materials and performing all work for new brass water piping at the U. S. custom house, appraisers' stores and court house, Wilmington, N. C. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications may be obtained from the custodian at the building or at this office, in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close July 7, 1931.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., June 11, 1931.—SEALED BIDS in duplicate subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., July 7, 1931, for furnishing all labor and materials and performing all work for the construction of the U. S. post office, etc., at Thomson, Ga. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications not exceeding three sets may be obtained at this office in the discretion of the supervising architect by any satisfactory general contractor, and provided a deposit of \$15.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

Bids close July 6, 1931.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., June 8, 1931.—**SEALED BIDS** in duplicate subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., July 6, 1931, for furnishing all labor and materials and performing all work for the fan room and ventilating equipment of the U. S. p. o. and ct. h., at Owensboro, Ky. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931, (Public No. 798). Drawings and specifications not exceeding one set may be obtained by any satisfactory general contractor at this office in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close June 26, 1931.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., June 5, 1931.—**SEALED BIDS**, in duplicate subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., June 26, 1931, for furnishing all labor and materials and performing all work for construction of the U. S. post office, etc., at Hallowell, Maine. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding three sets, may be obtained at this office in the discretion of the supervising architect by any satisfactory general contractor, and provided a deposit of \$15.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

Bids close June 26, 1931.

United States Department of Agriculture, Bureau of Public Roads, Washington, D. C., June 13, 1931. **SEALED BIDS**, in single copy only subject to the conditions contained herein, will be received until 10:00 o'clock A. M. on the 26th day of June, 1931, and then publicly opened for furnishing all work for grading and incidental work on Sections C. D. and E. of Route No. 1, Shenandoah National Park, Virginia. The length of the project is 22.07 miles and the principal items of work are approximately as follows: 97.6 acres grubbing and clearing, 196,043 cubic yards unclassified excavation, 10,778 cubic yards unclassified borrow excavation, 531,863 station yards overhaul, 479.3 cubic yards cement rubble masonry, 7,258 linear feet 18-inch C. M. pipe, 670 linear feet 24-inch C. M. pipe, 634 linear feet 30-inch C. M. pipe, 138 linear feet 36-inch C. M. pipe, 3,800 linear feet rustic wood guard rail, 206,131 gallons asphalt oil and other incidental items. Each bidder must submit with his bid, or previously, an attested statement of his business and technical organization (of the bidder), on forms to be supplied by the Chief, Division of Construction, which are available for the contemplated work, including his financial resources and his highway construction experience, compared with the project bid upon. The United States expressly reserves the right to reject any bid in which the facts as to business and technical organization, financial resources, or construction experiences, compared with the project bid upon, justify such rejection. Where copies of plans and specifications are requested, a deposit of \$25 will be required to insure their return. If these are not returned within 15 days after opening of bids the deposit will be forfeited to the Government. Checks should be made payable to A. Zappone, Disbursing Clerk, Department of Agriculture. Bids must be submitted upon the Standard Government Form of Bid and the successful bidder will be required to execute the Standard Government Form of Contract for Construction. The right is reserved, as the interest of the Government may require, to reject any and all bids, to waive any informality in bids received, and to accept or reject any items of any bid, unless such bid is qualified by specific limitation. Envelopes containing bids must be sealed, marked, and addressed as follows: **BID FOR ROAD CONSTRUCTION, SHENANDOAH NATIONAL PARK PROJECT NO. 1, SECTIONS C, D and E. BIDS TO BE OPENED JUNE 26, 1931, at the OFFICE OF THE BUREAU OF PUBLIC ROADS, WILLARD BUILDING, WASHINGTON D. C. THOS. H. MACDONALD, CHIEF OF BUREAU.**

Bids close June 20, 1931.

U. S. Engineer Office, Mobile, Ala.—**Sealed bids**, in duplicate, subject to the conditions contained in the specifications, will be received until 11 o'clock A. M., June 20, 1931, and then publicly opened, for furnishing all labor and materials and performing all work of dredging approximately 5,620,000 cubic yards of material in the Mobile Bay Channel. Further information on application.

Bids close July 6, 1931.

TREASURY DEPARTMENT, office of the supervising architect, Washington, D. C., June 12, 1931.—**SEALED BIDS**, in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., July 6, 1931, for furnishing all labor and materials and performing all work for the construction of the U. S. post office, etc., at Toccoa, Ga. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding three sets, may be obtained at this office, in the discretion of the supervising architect, by any satisfactory general contractor, and provided a deposit of \$15.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

Bids close July 1, 1931.

Notice of Sale \$5,000,000 State Highway Certificates of Indebtedness of the State of South Carolina

Columbia, S. C., June 13, 1931. Sealed proposals will be received by the Governor and the State Treasurer of the State of South Carolina, at the State Capitol, in the City of Columbia, South Carolina, until Wednesday, July 1, 1931, at 12 o'clock, Noon, for the purchase of \$5,000,000 State Highway Certificates of Indebtedness of the State of South Carolina. The certificates of indebtedness will be dated June 1, 1931, will bear interest at a rate to be named by the bidder, payable semi-annually on March 1st and September 1st, and will mature in annual series or installments on March 1st in each year as follows: \$250,000.00 in each of the years 1939 to 1943, inclusive, and \$500,000.00 in each of the years 1949 to 1953, inclusive.

The certificates of indebtedness will be of the denomination of \$1000.00 each, and will be issued in coupon form, with the privilege of registration as to principal only or as to both principal and interest. Principal and interest will be payable in gold coin at the State Treasury, in the City of Columbia, or at the agencies of the State in the Cities of Charleston and New York.

Bidders are invited to name the rate of interest which the certificates are to bear. The rate must be a multiple of one-quarter of one per centum, and must be the same for all of the certificates. The certificates will be awarded to the bidder offering to take them at the lowest rate of interest, at a price not less than par and accrued interest to the date of delivery of the certificates. As between bidders naming the same rate of interest, the amount of premium will determine the award.

Each bid should be enclosed in a sealed envelope, marked "Proposal for State Highway Certificates of Indebtedness," and addressed to the undersigned and must be accompanied by a certified check upon an incorporated bank or trust company for \$100,000.00, payable to the State Treasurer, as security for the performance of such bid.

Purchasers will be furnished with the opinion of Messrs. Reed, Hoyt and Washburn, Attorneys, of 40 Wall Street, New York, that the certificates of indebtedness are valid obligations of the State of South Carolina, said opinion to be paid for by the purchasers.

The blank bonds will be furnished by the State.

The right is reserved to reject all bids and to readvertise the certificates of indebtedness for sale.

IBRA C. BLACKWOOD,
Governor.
J. H. SCARBOROUGH,
State Treasurer.

Bids close July 3, 1931.

Office of the Constructing Quartermaster, Fort George G. Meade, George G. Meade, Md.—**Sealed proposals** will be received in this office until 3:00 P. M., July 3rd, 1931, and then opened, for the Construction of Service Roads, Sidewalks, Water Lines, Sanitary and Storm Sewer Lines, Manholes and Catch Basins for Officers' and Non-commissioned Officers' Areas, in accordance with plans and specifications which may be had upon application to this office, by deposit of check for \$5.00, payable to the Treasurer of the United States.

Bids close June 24, 1931.

Sealed Bids, indorsed "Bids for Refrigerating Equipment, Specification No. 6522," will be received at the Bureau of Yards and Docks, Navy Department, Washington, D. C., until 11 o'clock a. m., June 24, 1931, and then and there publicly opened, for refrigerating equipment consisting of a motor-driven ammonia compressor, condenser, liquid receiver, brine cooler, oil and scale traps, motor-driven brine pump, safety devices and manual starting equipment, motor control and instrument panels and complete piping systems and wiring for the equipment; also materials for use in the construction of cold rooms at the Naval Station, Guantanamo Bay, Cuba. Specification No. 6522 and accompanying drawings may be obtained on application to the Bureau or to the Commandant, Naval Station, Guantanamo Bay, Cuba. Deposit of a check or postal money order for \$10, payable to the Chief of the Bureau of Yards and Docks, is required as security for the safe return of the drawings and specification. A. L. PARSONS, Chief of Bureau, June 3, 1931.

Bids close July 14, 1931.

Louisiana Highway Work Baton Rouge, La.

Sealed proposals for the construction of the following projects will be received by the Louisiana Highway Commission, Room No. 614 Louisiana National Bank Building, Baton Rouge, Louisiana, until 9:45 A. M. on Tuesday, July 14, 1931. Proposals will not be received after this hour. At 10:00 o'clock A. M. of the same day and date they will be publicly opened and read in the Chamber of the House of Representatives in the State Capitol Building:

(BOND) PROJECT NO. 1605—RING-GOLD-EAST AND WEST HIGHWAY—Located in Bienville Parish—Routes 13 and 417—Length 3.2 miles—Width 18'—Type Portland Cement Concrete Pavement and other work in connection therewith—Charges for plans, \$1.50.

(BOND) PROJECT NO. 1606—ARCA-DIA-NORTH AND SOUTH HIGHWAY—Located in Bienville Parish—Route 12—Length 2.1 miles—Width 18'—Type Portland Cement Concrete Pavement and other work in connection therewith—Charges for plans, \$1.50.

(BOND) PROJECT NO. 2506—LOGANS-PORT-LONGSTREET HIGHWAY—Located in De Soto Parish—Route 38—Length 4.7 miles—Width 18'—Type Portland Cement Concrete Pavement and other work in connection therewith—Charges for plans, \$1.50.

(BOND) PROJECT NO. 2508—MANS-FIELD-SODUS HIGHWAY—Located in De Soto Parish—Route 1—Length 3.1 miles—Width 18'—Type Portland Cement Concrete Pavement and other work in connection therewith—Charges for plans, \$1.50.

(BOND) PROJECT NO. 5005—CADD0-RED RIVER PARISH LINE-GRAND BAYOU HIGHWAY—Located in Red River Parish—Route 20—Length 11.4 miles—Width 18'—Type Portland Cement Concrete Pavement and other work in connection therewith—Charges for plans, \$2.50.

(BOND) PROJECT NO. 5006—HANNA-GRAND BAYOU HIGHWAY—Located in Red River Parish—Route 20—Length 11.2 miles—Width 18'—Type Portland Cement Concrete Pavement and other work in connection therewith—Charges for plans, \$2.50.

(BOND) PROJECT NO. 5200—SODUS-NORTH AND SOUTH HIGHWAY—Located in Sabine Parish—Route 1—Length 3.5 miles—Width 18'—Type Portland Cement Concrete Pavement and other work in connection therewith—Charges for plans, \$1.50.

Full information and proposal forms are available at the offices of the Highway Commission at Baton Rouge. Plans and specifications may be inspected there or will be furnished upon payment of amount specified above (not to be refunded).

HARRY B. HENDERLITE,
State Highway Engineer.
O. K. ALLEN, Chairman,
Louisiana Highway Commission.

Bids close June 23, 1931.

Maryland Highway Work

DEPARTMENT OF PUBLIC WORKS
STATE OF MARYLAND
STATE ROADS COMMISSION

NOTICE TO CONTRACTORS

Baltimore, Md.

SEALED PROPOSALS for building four (4) sections of State Highway as follows: Allegany County, Contract No. A-88-64—One section of State Highway from the end of Contract No. A-87 at Oldtown toward Town Creek, a distance of 5.21 miles (Grading and Drainage)

Baltimore City, Contract No. BC-105-72—One section of State Highway along Patapsco Avenue, from Hanover Street to Brooklyn Avenue, a distance of 0.50 miles (Sheet Asphalt)

Calvert County, Contract No. C-43-82—One section of State Highway from the Solomon Island Road to Olivet, a distance of 2.69 miles (Gravel)

Talbot County, Contract No. T-35-22—One section of State Highway along the Cordova-Easton Road from end of Contract No. T-29 toward Easton, a distance of 4.34 miles (Concrete)

will be received by the State Roads Commission at its offices, Federal Reserve Bank Building, Calvert and Lexington Streets, Baltimore, Maryland, until 12 M. on the 23rd day of June, 1931, at which time and place they will be publicly opened and read.

Bids must be made upon the blank proposal form which, with specifications and plans, will be furnished by the Commission upon application and cash payment of \$1.00, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check, payable to the State Roads Commission of Maryland, as required by Sec. 6, Chapter 539, Acts of 1931, of the amount as set forth in the proposal form.

The successful bidder will be required to give bond and comply with the Acts of the General Assembly of Maryland respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 9th day of June, 1931.

G. CLINTON UHL, Chairman.
L. H. STEUART, Secretary.

Bids close July 7, 1931.

Electric Light Plant

Ocala, Fla.

NOTICE is given that City Council, Ocala, Florida, on July 7th, 1931, at 8 P. M., will consider sealed proposals for furnishing and installing machinery in its Electric Light Plant. The costs thereof to be paid out of savings and/or earnings of plant.

Right is reserved to reject any and all proposals. If interested write
J. R. MARTIN, City Manager.

Bids close June 30, 1931.

Fire Pump and Oil Engine

Leland, Miss.

Sealed bids will be received up to 7.00 P. M. Tuesday, June 30th, 1931, at the office of the City Clerk of Leland, Mississippi, on one Oil Burning Engine of approximately 600 horsepower and one 1000 gallon, one hundred pounds pressure, fire pump, with dual drive. Plans and specifications can be obtained from the City Clerk on application.

MARY P. JOHNSON, Clerk.

Bids close June 25, 1931.

U. S. Department of Agriculture, Bureau of Public Roads, Washington, D. C., June 9, 1931. Sealed bids will be received at the office of the Bureau of Public Roads, Willard Building, Washington, D. C., until 10 o'clock A. M. June 25, 1931, for 20.4 miles of highway, grading and structures in the proposed Shenandoah National Park, Va., involving major items of approximately 89 acres clearing and grubbing; 293,060 cubic yards of unclassified excavation; 9500 cubic yards tunnel excavation, unclassified; 11,641 cubic yards borrow excavation, unclassified; 566,562 station yards overhaul, 5959 M. ft. B. M.; 6178 lineal feet 18 inch C. M. pipe; 1174 lineal feet 24 inch C. M. pipe; 844 lineal feet 30 inch C. M. pipe; 34 lineal feet 36 inch C. M. pipe; 4800 lineal feet rustic guard rail; 220,000 gallons of asphalt oil applied, and other small items of work. Where plans and specifications are requested a deposit of \$25 will be required to insure their return within 15 days after the opening of bids. Checks should be made payable to A. Zappone, Disbursing Clerk, Department of Agriculture. Plans, specifications and proposals may be obtained at the office of the Bureau of Public Roads, Willard Building, Washington, D. C., or at the office of the Bureau at Skyland, Virginia. THOS. H. MACDONALD, Chief of Bureau.

Bids close June 23, 1931.

Notice to Contractors

Huntington, W. Va.
The Chamber of Commerce of Huntington, West Virginia, will be pleased to furnish all information desired as to building materials, sub-contractors, etc. to those intending to bid on the U. S. Veterans' Hospital to be located in Huntington. Bids opened June 23, 1931.

W. S. ROSENHEIM,
Managing Director.

Bids close July 14, 1931.

Sanitary Sewer System

Tuscaloosa, Ala.

Sealed proposals will be received by the Board of City Commissioners of the City of Tuscaloosa, Alabama, until 10 o'clock A. M. Tuesday, the 14th day of July, 1931, and then publicly opened, for the construction of a sanitary sewer system. Following are the approximate quantities:

23,946 Linear Feet 30 Inch Sewer Pipe.
832 Linear Feet 24 Inch Sewer Pipe.
10,638 Linear Feet 21 Inch Sewer Pipe.
91 Linear Feet 21 Inch Sewer Pipe Under Railroads.
4,568 Linear Feet 18 Inch Sewer Pipe.
10,027 Linear Feet 15 Inch Sewer Pipe.
9,763 Linear Feet 12 Inch Sewer Pipe.
288 Linear Feet 12 Inch Sewer Pipe Under Railroads.
10,923 Linear Feet 10 Inch Sewer Pipe.
787 Linear Feet 8 Inch Sewer Pipe.
168 Linear Feet 24 Inch Cast Iron Pipe.
16 Linear Feet 21 Inch Cast Iron Pipe.
32 Linear Feet 18 Inch Cast Iron Pipe.
48 Linear Feet 15 Inch Cast Iron Pipe.
188 Linear Feet 12 Inch Cast Iron Pipe.
352 Linear Feet 10 Inch Cast Iron Pipe.
70 Manholes.
2 24x6 Inch Cast Iron Tees.
2 6 Inch Valves.
10 Acres Clearing and Grubbing.
5,000 Feet B. M. Lumber in Place.
100 Cubic Yards Earth Excavation.
10 Cubic Yards Class C Concrete.
10 Cubic Yards Class B Concrete.

Proposals must be made out on the regular form of proposals and must be accompanied by a cashier's check or a certified check, drawn to the order of the City of Tuscaloosa, or a bidder's bond in the sum of \$2500.00 as a guarantee that the successful bidder will make bond and enter into a contract for the execution of the work in accordance with the terms of his proposal. Copies of the specifications may be obtained from W. H. Nicol, City Engineer, Tuscaloosa, Ala.

The right is reserved by the City to reject any or all bids.

NORFLEET HARRIS,

President of the Board of Commissioners, City of Tuscaloosa, Alabama.

CLASSIFIED OPPORTUNITIES

MINERAL AND TIMBER LANDS, WATER POWER, MISCELLANEOUS PROPERTIES

POTASH LEASES 4 to 30 miles of best U. S. Gov. core test in Texas (copy report free) and \$2,500,000 Texas Potash Corp. holdings, where press report states mining to start. C. H. C. Anderson, Linz Bldg., Dallas, Tex.

SAND AND GRAVEL

SANDY OVERBURDEN two to five feet covers 320 acres solid bed best type commercial gravel 12 to 80 ft. stratum. Two railroads, 43 miles Houston, 50 cent rate, 50 miles road around pit to concrete now. \$75 acre. Terms.

M. JACKSON, Cleveland, Texas.

COAL

SOUTHERN WEST VIRGINIA
Smokeless coal, several thousands tons monthly; no middleman; mine direct to consumer, or dealer; good rating and prompt pay necessary. Write P. O. Box No. 368, Beckley, West Va.

CEDAR
BEST SEA ISLAND CEDAR
FOR SALE
EDISTO BEACH, INC.,
Law Range, Sumter, S. C.

Rates, Terms and Conditions

RATES: 30 cents a line each insertion. Minimum space accepted, four lines. In estimating the cost allow six or seven words of ordinary length to line. When the advertisement contains a number of long words proper allowance should be made.

Rates for Special Contract:

100 lines 28c a line
300 lines 26c a line
500 lines or more 25c a line

TERMS: For transient advertising cash with order; check, postoffice or express money order or stamps accepted.

On special contract advertising bills are rendered monthly, covering space used each month, payable within ten days.

CONDITIONS. No patent medicine, oil or mining stock advertisements or questionable or undesirable advertisements will be accepted. The assistance of our readers in excluding undesirable advertisements is requested. No display type used.

MINERAL AND TIMBER LANDS, WATER POWER, MISCELLANEOUS PROPERTIES

FARM AND TIMBER LANDS

THE FOLLOWING TRACTS of land in North Florida are offered for less than they are worth for the purpose of liquidation. All well timbered with young long leaf pine.

18,000 acres good land at \$2.00 per acre.

11,000 acres at \$2.50 per acre.

440 acres at \$3.00 per acre.
F. L. GIBSON,
Thomasville, Ga.

FARM, FRUIT AND TRUCK LANDS**TEXAS**

FOR SALE—Wonderful 33,000 Acres, Famous "Winter Garden of Texas," Abundant Shallow Water, Ideal Climate, Sportsmen's Paradise, Right for Colonization at 1/2 Actual Value. D. R. Miller, Box 539, New Braunfels, Texas.

WINTER GARDENS of Southwest Texas. The cheapest place to grow oranges and grape fruit in America. Ideal climate, cheap water, cheap labor. Write owner for full particulars. Dr. S. L. Stallings, 410 Gibbs Bldg., San Antonio, Texas.

FARM, FRUIT AND TRUCK LANDS

VIRGINIA

1,100 ACRES IN VIRGINIA, one hour by automobile west of Richmond. Gently rolling land, creek through center, much valuable growing wood and timber, 4 room hunting lodge, \$8,000. FRANK H. COX, Ashland, Va.

BUSINESS OPPORTUNITIES

LONG TERM LOANS, large amounts, made on industrial, mercantile, sawmill properties. THOS. W. GILMER, Attorney, Bay Minette, Alabama.

FOR SALE

Manufacturing Rights on patented burial couchette. Royalty basis.

RAYMOND LEE,

1160 East 82nd St., Los Angeles, California.

WANT TO SELL all or half interest in a small retail lumber yard. Well equipped. Good shed, good location. Small amount of cash required, the right man practically no cash. Apply Box 245, Leaksville, N. C.

MANUFACTURERS—Write for our FREE Classification Sheets of inventions for sale, covering 135 main subjects, and in one or more of which you will doubtless be interested. ADAM FISHER MFG. CO., 578 Enright, St. Louis, Mo.

BIG BARGAIN—For Sale, an up-to-date newspaper and job plant; cost \$8,000, for sale at \$3,500 and terms on part. Good field, good roads, schools, citizens, etc. Worth coming to see. Reasonable rent, waterworks and electric lights and power. For full particulars write. No curious need bother. Address G. B. TERRELL, Neon, Ky.

GRANITE OWNERS correspondence invited. Practical Granite man of exceptional ability with a wide knowledge of the Granite, Marble and Stone industries, who can handle contracts of any magnitude, having operated the largest plants in the country, seeks an interest, with a progressive Granite concern who desires to engage in the fabrication of Structural Granite by modern methods—Opportunities to advance must be unlimited. Address No. 9109, care of Manufacturers Record, Baltimore, Md.

WANTED—A partner to purchase half interest in mill and equipment and three hundred million feet of hardwood stumpage, seventy-five per cent of which is Appalachian Oak. Also to have full charge of financing and lumber sales. Stumpage is owned at \$2.00 per M. log scale. Doyle's Rule. Money to be used for working capital and paying balance due on stumpage. This is a bargain for the right party. Do not answer unless you have money to invest. Address No. 9105, care of Manufacturers Record, Baltimore, Md.

BUSINESS OPPORTUNITY: I have available suitable space, improved modern type machinery and equipment necessary for wood-working plant—furniture or other wood products. Also considerable standing timber. Would like to make connection with right party or parties interested in proposition of this kind. Would require some capital and absolute knowledge of business you would be interested in. Location good. Reputation already established for making A-1 products. Address No. 9103, care of Manufacturers Record, Baltimore, Md.

BUSINESS OPPORTUNITIES

SALES, Consolidations, Mergers of Industrial properties, Manufacturing plants. Twenty-five years successful negotiating. HARWELL & GARDEN, Comer Bldg., Birmingham, Ala.

MANUFACTURING PLANT FOR SALE: On account of ill health of owner, a plant manufacturing Flavoring Extracts and Grocers' Drugs in own building. This business has grown steadily each year and has shown good gain this year. Established for 18 years. No. 9112, Manufacturers Record.

MOVING AHEAD

Parkersburg has worked out of the depression. Diversified industry did it. Locate your factory here at the gateway to the Central West and South.

BOARD OF COMMERCE, Parkersburg, West Virginia.

INDUSTRIAL SURVEYS

ENGINEERING REPORTS on resources of cities and towns. Recommendations for industrial development and zoning made by specialists in locating industries.

TECHNICAL SERVICE CO., Woolworth Building New York City

INDUSTRIES WANTED

WANTED—Manufacturing plants to locate at Wardsville, W. Va. Electricity, good water, cheap labor, railroad facilities, good highway, beautiful and healthful mountainous section. Write Board of Trade, Wardsville, W. Va.

FACTORY BUILDINGS

750 H.P. WATER POWER and about the same Steam Power. Factory must be sold immediately at sacrifice, containing 253,000 square feet of floor space; 59 miles from N. Y. City; water and rail transportation. Full particulars upon request.

LOEB & SCHOENFELD CO., 1123 Broadway, N. Y. C.

FACTORY SITES

TWO AND ONE-QUARTER MILES railroad frontage industrial sites for sale at Baton Rouge. Southern Land and Investment Company, Baton Rouge, La.

WEST VIRGINIA FACTORY SITE Adjoining town. Along with good water power electric plant. Also fuel oil auxiliary for emergency use. On railroad siding. Will lease or sell. Prices reasonable. Development desired. Will offer inducements. Address No. 9097, care Manufacturers Record.

PATENT ATTORNEYS

FREE "PATENT PARTICULARS" Sterling Buck, over 23 years Registered Patent Attorney. Prompt and thorough services. Suite M 629 F, Washington, D. C.

SEYMOUR & BRIGHT, Registered Patent Attorneys. Established 1876. PATENTS, TRADEMARKS, COPYRIGHTS. Prompt and thorough service. Suite 892. National Press Building, Washington, D. C.

PATENT ATTORNEYS

PATENTS—Booklet free. Highest references. Best results. Promptness assured. WATSON E. COLEMAN, Patent Lawyer, 724 Ninth St., N. W., Washington, D. C.

PAUL B. EATON, Patent Attorney 1408-R Johnston Bldg., Charlotte, N. C. 314 McLachlen Building, Washington, D. C. 417 Wachovia Bldg., Winston-Salem, N. C.

REPRESENTATIVES WANTED

WE MAKE Water Conditioning Chemicals and desire to communicate with men now active, calling on the power trade or handling boiler room specialties. Work is highly remunerative. Address No. 9080, care of Manufacturers Record.

MEN WANTED who sell fire appliances, to handle a Gasoline Non-Explosive safety valve for use on all gasoline tanks and a line of one and five gallon Non-Explosive gasoline cans.

EMERSON ENGINEERING CORP., Alexandria, Va.

SITUATIONS WANTED

ONE OF THE BEST KNOWN traveling salesmen in South and Southwest desires position with manufacturer catering to railroads, hardware and supply jobbers and large industrials; best of references. No. 9111, care of Manufacturers Record.

MEN WANTED

IF YOU ARE OPEN to overtures for new connection and qualified for a salary between \$2500 and \$25,000, your response to this announcement is invited. The undersigned provides a thoroughly organized service of recognized standards and reputation, through which preliminaries are negotiated confidentially for positions of the caliber indicated. The procedure is individualized to each client's personal requirements, your identity covered and present position protected. Established twenty-one years. Send only name and address for details.

R. W. BIXBY, INC., 103 Downtown Bldg. Buffalo, New York

MACHINERY AND SUPPLIES

WILLIAMS PATENT GRINDER (Infant), complete with pneumatic system, pipes, etc., very cheap. Used only a few hours. Engineering Company, Tenth & Carroll, St. Louis, Mo.

OIL ENGINES, Steam Engines, Motors, Shafting, Pulleys, Hangers. All kinds transmission and motive power equipment. Exceptionally low prices. Write or wire STANDARD MILL SUPPLY COMPANY, 1301 Waldheim Building, Kansas City, Mo.

DEEP WELL PUMP FOR SALE One A. D. Cook Double Action Type 1L 45 Gal. per minute Deep Well Pump, with or without Howell Red Band 7½ H.P., 1200 R.P.M. Motor and starter, now in daily service. SUPERINTENDENT WATER WORKS, Inman, South Carolina.

ELECTRIC WELDING PLANT with air compressor, acetylene cutting outfit, cables, airhose and tools, mounted on 3 ton truck. Ideal outfit for Marine, Industrial or Oil field purpose—A1 condition. Photo on request. Price \$2,500, f.o.b. New Orleans. Write 305 Wells Fargo Bldg., New Orleans, La.



SPECIAL ADVERTISEMENTS OF GENERAL INTEREST



Coal Yard and Fuel Oil Business

FOR SALE: The Southern Coal Company, of Asheville, North Carolina, will be sold at public auction on Monday, July 6, 1931. This company was established 22 years ago. Large and well equipped yard doing business of 20,000 tons in 1930 in addition to a lucrative fuel oil business. For particulars communicate with

J. G. Deshler, Receiver

Southern Coal Company

Asheville, N. C.

BUSINESS PROPERTY IN AND AROUND CHATTANOOGA

The Industrial Center of the South.

Let us serve you when in need of Choice Business or Commercial Properties

BROWN & CO., Inc.

Chattanooga

Long Distance Phone 63166

Tennessee

Claude Brown, Pres. & Treas.



RESALE DEPARTMENT

MACHINERY

EQUIPMENT

SUPPLIES



PIPE—FOR SALE—SUPPLIES

STANDARD FLANGED GATE VALVES, Brass Mounted, 125 lbs.

| | | | |
|------|-------|-------|-------|
| 2-3" | 10-6" | 1-12" | 1-18" |
| 3-4" | 4-8" | 1-14" | 1-24" |
| 2-5" | 1-10" | 1-16" | |

STANDARD SCREW GATE VALVES, Brass Mounted, 125 lbs.

| | | |
|----------|----------|------|
| 6-3" | 6-4" | 4-6" |
| 6-2 1/2" | 2-4 1/2" | 1-8" |
| 3-3 1/2" | 2-5" | |

STANDARD FLANGED CHECK VALVE, Brass Mounted, 125 lbs.

| | | |
|------|------|-------|
| 2-6" | 1-8" | 1-10" |
|------|------|-------|

STANDARD HUB END GATE VALVE, Brass Mounted, 125 lbs.

| | |
|--------------|------|
| 1-16" Geared | 3-8" |
| 1-12" | 3-6" |

STANDARD SCREW CHECK VALVE, Brass Mounted, 125 lbs.

| | | |
|------|----------|------|
| 3-3" | 3-2 1/2" | 2-4" |
|------|----------|------|

GALVANIZED PIPE in stock from 1/2" to 8"

BLACK PIPE from 1" to 16"

PRESSURE TANKS up to 5,000 gal. capacity

ADELMAN'S PIPE & STEEL COMPANY

47-49 N. E. 25th St.

Miami, Fla.

Oil Engine Generating Sets, Switchboards, etc. FOR SALE

Two 200 H. P.—Fairbanks-Morse Type Y—Style V—Diesel Type Engines—direct connected each respectively to 170 KVA Alternating motors, each delivering 125 effective Kilowatts—Three phase—60 cycles—2300 volts to switchboard. Each unit complete with exciters and four panel distributing switchboard. Will sell bargain price together or separately. First class condition. Can be seen operating.

Address

PISGAH MILLS

Box No. 1009 Greenville, S. C.

If you want to get
SOUTHERN business
advertise in the
MANUFACTURERS RECORD
BALTIMORE, MD.

BOILERS

High pressure water tube and H B T boilers at unbelievable prices. We have them in practically every southern state and are scrapping all but the very best. Write us your requirements.

W. M. SMITH & CO.

Box 1709 Birmingham, Ala.

STEEL BUILDING FRAME

60' wide, 180' long, 24' high. Also independent runway and 10 ton Niles A.C. Crane.

Near Roanoke, Va. Excellent Condition, marked for re-erection. Quick shipment. Low price. Also splendid lot of Shepard A. C. Hoists, 1 to 6 tons.

N. B. PAYNE & CO.
25 Church St. N. Y. C.

FIRE PUMP

750 Gallon Worthington Underwriters Centrifugal Fire Pump, Electric Motor Driven, 75 H.P., 220-440 volt, 3 ph. 60 cycle motor.

AIR COMPRESSOR

676 cu. ft. Ingersoll Rand 2 stage motor driven air compressor.

GENERATOR SETS

200 KVA 220 vt. 3 ph. 60 cy. Burke with Filer Stowell Uniflow engine.

2-50 KVA 220 vt. 3 ph. 60 cy. Ridgway with Ridgway engine.

Large stock of motors and motor driven Centrifugal Pumps.

New Stock list G-77 now ready. Copy mailed on request.

O'BRIEN

Machinery Company

113 N. Third St. Philadelphia, Pa.

RANDLE

OFFERS BIG BARGAINS IN

Used and Rebuilt Engine Generator Sets—Electric Machinery of all kinds—Machine Tools, etc.

Send for new Machinery List.

RANDLE MACHINERY CO.

1734 Powers St., Cincinnati, O.

Second Hand and New **PIPE** Overhauled and New Threads and Couplings

Also Cut to Sketch

Greenpoint Iron & Pipe Co., Inc.

187-205 Maspeth Ave. Brooklyn, N. Y.

SATISFACTION

ALBERT PIPE SUPPLY CO., INC.

NEW-RECLAIMED-USED

PIPE

ALL SIZES CUT TO SKETCH
AND STOCKED

BERRY & NORTH 13th STS.
BROOKLYN, N.Y.

GUARANTEED

PIPE

Rethreaded, reconditioned, guaranteed, suitable for all practical purposes, furnished with new threads and couplings, 400,000 feet in all sizes from 24" to 3/4".

Also large stock of spiral pipe, sizes 7", 10", 12", 14", 20", and 24".

Large stock of valves and fittings, screwed and flanged. Can make attractive prices.

MARINE METAL & SUPPLY CO.

167 South St., New York City

PIPE NEW

SECOND HAND

Overhauled and Tested

New Threads and Couplings

Established 1904

Albert & Davidson Pipe Corp.

Second Ave., 50th-51st St., Brooklyn, N. Y.
Telephone Sunset 1900

IRON AND STEEL PIPE

Large quantity new and used Government material in excellent condition, ready for immediate shipment. Low prices.

CENTRAL PIPE & SUPPLY CO.

Box 1099 Charleston, W. Va.

—TRANSFORMERS—

SALES AND REPAIR SERVICE

Quick Delivery and Low Prices



A complete stock of transformers 1 to 1000 kva. Modern methods make our repair service second to none. Special service on breakdown jobs.

All transformers guaranteed for one year.
Write for Catalog. No. 125-E.

The Electric Service Company, Inc.

"America's Used Transformer Clearing House"

212 Walnut St., Cincinnati, Ohio



8" GALVANIZED CORRUGATED PIPE

6000 ft. 8" NEW GALVANIZED CORRUGATED pipe in lengths 16 to 20 ft. Suitable for exhaust drains, water systems, sewers, conduits, etc. Have the necessary connecting sleeves. Priced considerably under the market.

1000 ft. 12" NAYLOR Black asphalted spiral welded slip joint pipe, slightly used.

MARINE METAL & SUPPLY CO.

167 South St., New York City



RAILROAD AND CONTRACTORS' EQUIPMENT



CONTRACTORS EQUIPMENT

- 1—Bucyrus, diesel, equipped as 2 yard shovel, also 60 foot boom and 1½ dragline.
 - 1—Bucyrus-Erie, model 1030, ¾ yard gas, combination shovel and clamshell, only slightly used.
 - 1—Bucyrus, model D-2, diesel, 1 yard dragline.
 - 1—Northwest, model 104, 1 yard gas, combination shovel and dragline, in good condition.
 - 1—P. & H., model 206, ¾ yard gas, combination shovel and crane.
- Several Insleys, Bearcats, and other small cranes, draglines, and shovels.
- 1—Buffalo-Springfield, 10 ton, 2 cylinder, gas, roller. Rebuilt.
 - 1—Koehring, 27-E, Paver, slightly used.
 - 1—Kinny, 600 gallon asphalt distributor.
- Complete line high pressure pumps, road forms, bins, finishers, caterpillar tractors, and dirt moving equipment.

Inquiries promptly and efficiently answered.

L. B. SMITH, INC.
CAMP HILL, PENNA.

Reach the Buyers

of used machinery and equipment through the
Resale Department

An advertisement in this department will help sell machinery being replaced or no longer needed in your plant.

Rates on Request

MANUFACTURERS RECORD
Baltimore, Md.

CARS & LOCOMOTIVES

- 2—12-ton Plymouth, 36" ga. Gas.
- 1—8-ton Plymouth, 36" ga. Gas.
- 1—8-ton Whitecomb, 36" ga. Gas.
- 30—4 yd. & 5 yd. 36" gauge Dump Cars.

DRAGLINES & PUMPS

- 1—4 yd. Monighan 110' Boom Diesel.
 - 1—2 yd. Monighan 70' Boom Diesel.
 - 1—1½ yd. Northwest—Gas.
 - 3—10-ton Holt Tractors.
 - Dragline Buckets, ¾ yd. to 5 yd.
 - 6—2 yd. Lakewood Conc. Dump Buckets.
- Gas & Steam Hoists, 75 to 100 H.P.

R. J. Blackburn, Inc.
8245 Idaho Ave. St. Louis, Mo.

FOR SALE

P. & H. Model 206, ¾-yd. Dragline.
Byers, 10-ton Caterpillar Crane, ¾-yd. Clam.
O. & S. 22½-ton Loco. Crane 50' Boom.
16—12-yd. Western Steel Beam Dump Cars.
10—50-ton capy. All Steel Twin Hopper Cars.
75-ton, 20x26" 6-Driver Switcher, A. S. M. E.
50-ton, 18x24" 6-Driver Switcher.
92-ton, 20½x28" Mikado (2-8-2) BUILT 1923.
35-ton, 13x20" 4-Driver Std. Tank.
56-ton, 18x24" 4-Driver Std. Tank.

WE HAVE OVER FORTY LOCOMOTIVES IN STOCK. REBUILT AND READY ALL TYPES. 10 TO 100 TONS

Southern Iron & Equipment Co.,
Atlanta, Ga.

OIL ENGINES

300—20 to 1000 HP to choose from

ZELNICKER IN ST. LOUIS

Tanks, Steel Piling, Rails, Equipment, etc.

Send us your Inquiries

STEEL SHEET PILING

NEW and USED

Sold — Bought — Purchased

Stocks at principal points.

HYMAN-MICHAELS COMPANY

St. Louis CHICAGO New York
Houston San Francisco Seattle

Shovels or Cranes

FOR SALE

- 1—Factory rebuilt Lima 1½ cu. yd. capacity. This machine can be equipped with either shovel, clamshell, dragline or drag shovel attachments. Very reasonably priced. Carries new machine guarantee. Located at Newark.

GENERAL ½-yd. combination shovel, backhoe, 2 buckets, and crane boom. Very good condition, located Long Island.

- 1—GA-2 Erie Gas Air Shovel. Fine condition and bargain. Located Newark, N. J.

Complete Shovel Attachment for Type "O" Thew. Also, attachment for Type B and B-2 Eries located in New Jersey. Decided bargains.

- P & H 1½ yd. Gas Shovel. Excellent condition, very attractive price. Located Newark, N. J.

- 1—Linn Tractor, 6-yd. capacity, with Waukesha Motor. Machine in very good condition. Priced to sell quickly. Located New York State.

We have both Steam and Gasoline Excavators ranging from ½ to 1½ cu. yd. capacity in various parts of the country that will be sold at extremely low prices or leased with leased payments made applying on purchase price.

LIMA EXCAVATOR SALES AGENCY

Eastern Offices and
Lima, O., Office: Warehouse,
Lima Trust Bldg. 317 Frelinghuysen
Tel. Main 4824 Ave., Newark, N. J.
Tel. Waverly 2-0640

Wire or phone nearest office
at our expense

36" PORTABLE TRACK

25 lb. rails—7 steel ties per 15 ft. section. Over ten miles, located Ocala, Fla. Also locomotives, cars, cranes and shovels.

Write us or have your local dealer do so.

EQUIPMENT CORPORATION OF AMERICA
1166 So. Washtenaw Ave., Chicago

FOR SALE

- 1—11"x13" Clyde Reversible Link Motion Swinging Engine, bought brand new, used thirty days.

- 1—8½x12 W. A. Crook & Bro. Reversible Link Motion Swinging Engine.

- 1—9x12 W. A. Crook & Bro. Reversible Link Motion Swinging Engine.

- 1—Set of 14-3/16" Twin Engines built by W. A. Crook & Bro. First class condition.

- 1—81"x15'9", 150 H.P. Vertical Submerged Tube Boiler, complete, built for 125 lb. steam working pressure. Newly tubed and in first class condition.

T. G. ADAMS MACHINERY CO.
220 W. Bay St., Savannah, Ga.
P. O. Box 1597

RELAYING RAILS—SWITCHES TRACK MATERIAL

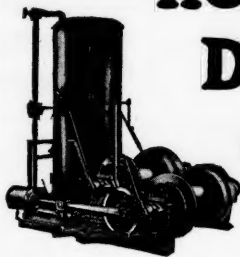
THE PERRY BUXTON DOANE CO.

P. O. Box 5253 Boston, Mass.

Shovels, Locomotives, Dump Cars & Wagons, Crushers, Pipe For Sale

- 1—Marion Steam Shovel No. 60 Shop No. 2064\$2,000.00
- 1—Marion Steam Shovel No. 60 Shop No. 1646 2,000.00
- 1—Marion Steam Shovel No. 61 Shop No. 2887 3,000.00
- 1—Osgood Shovel Model No. 29 2,500.00
- 1—Thew Shovel ¾ yd. Model No. 2787 3,000.00
- 1—American Locomotive 12 x 18, 31½ tons Std. gauge 2,500.00
- 1—American Locomotive 11 x 16, 18 ton Std. gauge 400.00
- 1—Vulcan Locomotive 12 x 18, 22 ton Std. gauge 900.00
- 1—Vulcan Locomotive 11 x 16, 24 ton Std. gauge 900.00
- 2—Vulcan Locomotives 11 x 16, 24 ton Std. gauge each 750.00
- 2—Vulcan Locomotives Dinky Engines 36" gauge 10 x 14, 14 ton...each 500.00
- 2—Vulcan Locomotives Dinky Engines 36" gauge 9 x 14each 500.00
- 2—Vulcan Locomotives 20 ton Std. gauge 12 x 18each 750.00
- 6—Standard gauge steel frame Western dump carseach 200.00
- 30—Western Dump Cars—wood beams each 125.00
- 1—Cedar Rapids Crushing Outfit with loading bins 3,000.00
- 1—Williams Hammer Crusher No. 4 Jumbo 2,500.00
- 35—Dump Wagons (used)each 10.00
- 2 miles 2" pipe f.o.b. cars Atlanta, Ga.per foot .11

Nichols Contracting Co., Inc.
1281 La France St., N. E., Atlanta, Ga.



HOISTS DERRICKS CABLEWAYS

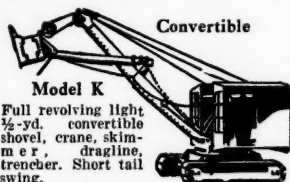
AN INQUIRY WILL NOT
INCUR AN OBLIGATION

STREET BROS. MACHINE WKS. INC.
Chattanooga, Tenn.

INDUSTRIAL CAR EQUIPMENT



THE ATLAS CAR & MANUFACTURING CO.
Cleveland, Ohio



Model K
Full revolving light
1/2-yd. convertible
shovel, crane, skim-
mer, dragline,
trencher. Short tail
swing.

POWER SHOVELS Cranes, Trenchers SKIMMERS

Full or part circle
BAY CITY SHOVELS, Inc.
Bay City, Mich.



**WALKING
DRAGLINE
EXCAVATORS**

**SHOVELS
CRANES
DRAGLINES
DREDGES**

Reliability!

Bucyrus-Eries are cutting costs in every part of the world. All sizes, types and powers of excavators. Railway cranes and "Load-master."

Bucyrus-Erie Co.
South Milwaukee, Wisconsin

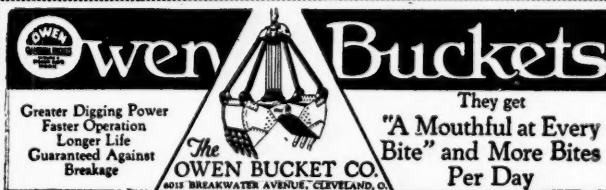
**IF YOU WANT TO GET—
Southern Business
Advertise in the
MANUFACTURERS RECORD**



BOTTOM DUMPING and TURN-OVER BUCKETS

Write us for information on
Contractors Buckets

G. L. Stuebner Iron Works, Inc.
Manufacturers of Material Handling Equipment
So. Hancock St. Long Island City, N. Y.



Greater Digging Power
Faster Operation
Longer Life
Guaranteed Against
Breakage

The OWEN BUCKET CO.
6015 BREAKWATER AVENUE, CLEVELAND, O.

They get
"A Mouthful at Every
Bite" and More Bites
Per Day

LARGEST PLANT

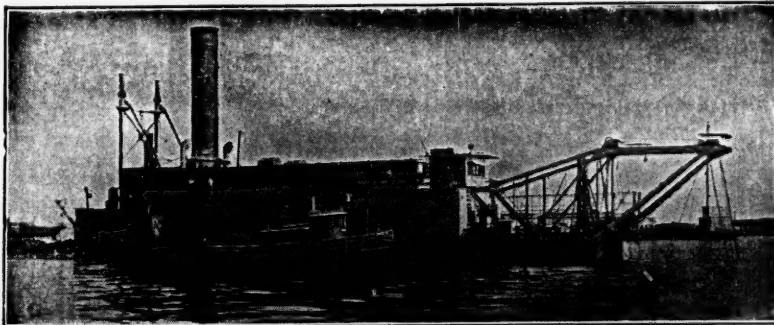
Filling,
Land Reclamation,
Canals
and Port Work

River and Har-
bor Improvements,
Deep Waterways
and Ship Channels.

Correspondence Invited
from Southern Officials
and Corporate and Pri-
vate Interests Every-
where.

NEW YORK
21 Park Row

DREDGING



LONGEST EXPERIENCE

We are especially
equipped to exe-
cute all kinds of
dredging, recla-
mation and port
works in South-
ern waters.

CONTRACTORS
TO THE
FEDERAL GOVERNMENT

Atlantic, Gulf and Pacific Company

HOUSTON
Scanlan Bldg.

LARGE CAPACITY— RIGID CONSTRUCTION— ECONOMICAL OPERATION—

UNIVERSAL PRIMARY
CRUSHERS



Manganese
Equipped

For rock quarries, gravel pits, and mining industries requiring a crusher with a larger feed opening and a higher ratio of reduction than is found in the average crusher.

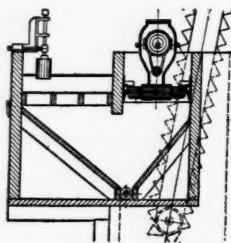
26 sizes of Crushers; 3 sizes of Pulverizers. Any combination outfit assembled either stationary or portable, with or without power. Capacities to 450 tons daily. Write for new catalogue to-day.

UNIVERSAL CRUSHER CO., 627 C Ave. West
Cedar Rapids, Iowa
25 years of unexcelled service

Coal Producers Make Money With ELMORE COAL JIGS

Send for circulars of
Elmore 500-A, 500-B,
600-A, 600-B.

*These Jigs clean your fine coal.
Merchantable coal insures
steady customers and
assures profits.*



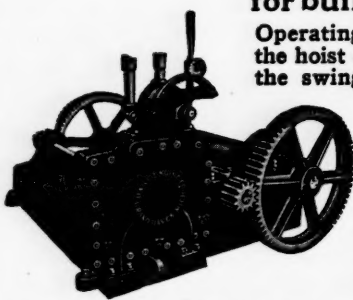
This is a single compartment jig for both Anthracite and Bituminous coal. A dewatering bucket elevator, is provided for removing the refuse from the jig tank. A screw conveyor removes the fines from the hutch of the jig to the boot of the elevator.

Write us for information and prices

Chas. C. Steward Machine Co.
P. O. Drawer 1191, Birmingham, Ala.

DAKE SWINGING ENGINES for bull wheel derricks

Operating independently of the hoist engine, they cut down the swinging time and speed up derrick work.



The engine has no dead centers and starts instantly from any position permitting quick accurate spotting of the load.

Also made for Electric Drive. Send for catalog.
DAKE ENGINE CO., Grand Haven, Mich.

PERFORATED SCREEN PLATES AND SHEETS

for

| | | |
|--------|-----------------------|--------|
| ORES | Cotton-Seed Oil Mills | CEMENT |
| COAL | Cotton Gins | SAND |
| STONE | Phosphate Mines | CLAY |
| GRAVEL | Fertilizer Plants | ETC. |
| | Cyanide Works | |
| | Chemical Works | |

Write for catalogue

CHARLES MUNDT & SONS
490 Johnston Avenue, Jersey City, N. J.

Perforated Metals SCREENS OF ALL KINDS

Chicago Perforating Co.
2445 West 24th Place
Tel. Canal 1489 CHICAGO, ILL.

PERFORATED METALS HEADQUARTERS

Cotton Seed Oil Works a Specialty

Send for Samples

ERDLE PERFORATING CO. Rochester, N. Y.

MANHATTAN PERFORATED METAL CO., INC.

No. 1 43 17-37th Street, Long Island City, N. Y.

PERFORATORS

No. 3 of All Kinds of Metals for All Industries
Write for Copper, Brass, Tin, Zinc or
Aluminum Catalog

Perforated Metal Screens for every purpose

also elevator buckets
of all kinds; chutes;
hoppers; stacks and
tanks.

MITCO Products—In-
terlocked Steel Grating;
Shur-Site Stair Treads;
Armorgrids.

HENDRICK MANUFACTURING CO.

44 Dundaff St., Carbondale, Pa.
Offices in Principal Cities

EVERY THURSDAY

is publication day of the
MANUFACTURERS RECORD.

Changes of copy must reach us eight
days in advance, or fifteen days in
advance if proofs are requested.

MANUFACTURERS RECORD
Baltimore, Maryland

We produce in quantities to meet your requirements

SAND and WASHED GRAVEL

QUICK shipments by rail from Baltimore and North East, Md. or in scow and barge lots. Truck or rail shipments from Baltimore, Md.

The Arundel Corporation

MAIN OFFICE: ARUNDEL BUILDING
BALTIMORE, MARYLAND

Branches: New York, Norfolk and Miami

SAND—GRAVEL—BRICK FILTER GRAVEL

Washed Sand and Gravel for Concrete Roads and Buildings

Filter Gravel, all sizes—Building Bricks

FRIEND & CO., INC. River St., Petersburg, Va.



for economy and permanence in Road Building and General Construction

WOODSTOCK SLAG CORP.

Southern Railway Bldg., Birmingham, Ala.

DUSTDOWN

SETTLES THE DUST PROBLEM

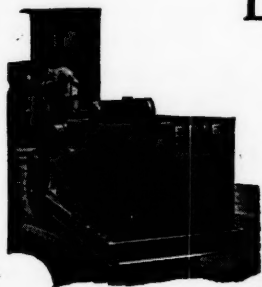
Better and costs less than oil or straight calcium chloride. Unexcelled for gravel and dirt roads, parks, cemeteries, and private driveways.

J. Q. DICKINSON & CO., MALDEN, W. VA.

ASPHALT PLANTS

THE **SIMPLICITY**
SYSTEM COMPANY

CHATTANOOGA, TENNESSEE



Let the ERIE Roll It!

You save hand tamping costs when you use the ERIE Roller. Roll right up to curbs, headers, manholes, and around the curves—

The ERIE turns in a shorter radius, steers more easily and has better clearance.

Write for Bulletin "M".

Erie Machine Shops
Erie, Pa.

ERIE ROLLERS
GAS AND STEAM SAME HIGH QUALITY

SULPHURIC ACID

SUPERPHOSPHATE

TRIPLE SUPERPHOSPHATE

MANGANESE SULPHATE

Manufactured and Distributed by

THE DAVISON CHEMICAL CO.

Main Office, Baltimore Trust Bldg., Baltimore, Md.

Main Plant, Baltimore; Pyrites Deposits Cienfuegos District, Cuba; Phosphate Rock Plant, Southern Phosphate Corporation, Bartow, Florida.

Plants Handling Complete Fertilizers and Fertilizer Materials: Maryland 11; Virginia 9; Pennsylvania 10; Georgia 2; Ohio 2; North Carolina 11; South Carolina, Mississippi, Louisiana, Texas, Indiana, West Virginia, Tennessee, Connecticut and New Jersey 1 each.

Crushed Stone Mascot Chatts Roofing Gravel Asphaltic Roadway Gravel Asphalt Filler Dust



AMERICAN LIMESTONE COMPANY
KNOXVILLE TENNESSEE

CRUSHED LIMESTONE

Best for All Purposes

We manufacture all sizes of stone suitable for all classes of road building and concrete work where only a high-grade limestone is required.

Quarries opened up in 1912.

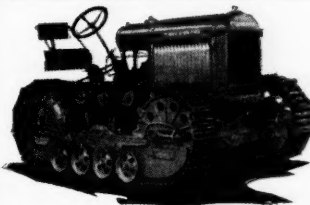
Capacity 8000 tons daily.

Four Quarries

Blue Ridge, Va. Pembroke, Va. Pounding Mill, Va.
Boxley, Greensville County, Va.

W. W. BOXLEY & COMPANY

Room 711, Boxley Building, - ROANOKE, VA.



MODEL GH TRACKSON
McCORMICK-DEERING

**Built
Especially
for
Shovels
Bulldozers
Pipe Booms
Cranes, Etc.**

Extra heavy crawler frames, axles, truck wheels and bearings provide ample strength to withstand the added weight and strains of such equipment, and also to insure lower upkeep and longer life on the straight drawbar operations.

Trackson Company
FULL-CRAWLERS & TRACTOR EQUIPMENT

1335 South First St. Milwaukee, Wis.

Classified Reference Index for Buyers

ABRASIVE MATERIALS.

Carborundum Co., Niagara Falls, N. Y.

ACCOUNTANTS (Cert. and Cost.)

Audit Company of the South, Atlanta, Ga.
Ernst & Ernst, New York, N. Y.

AERIAL TOWERS.

LeBourg A., Gadsden, Ala.

AIR COMPRESSORS (Stationary and Portable.)

De Laval Steam Turbine Co., Trenton, N. J.
General Electric Co., Schenectady, N. Y.
Quincy Compressor Co., Quincy, Ill.
Westinghouse Traction Brake Co., Wilmerding, Pa.

AIR CONDITIONING SYSTEMS.

Niagara Blower Co., New York, N. Y.

AIR HEATERS.

Babcock & Wilcox Co., New York.

AIRLOCKS.

Alco Products, Inc., New York, N. Y.

AIRPORTS.

Shaw Co., Russell B., St. Louis, Mo.

ANGLE IRON-WORKING MACHINERY.

Whitney Metal Tool Co., Rockford, Ill.

APPRAISERS.

Conard, William B., Burlington, N. J.
Maie, Inc., Chas. T., Boston, Mass.

ARCHITECTS.

Chase, Wm., J. J., Atlanta.
Main, Inc., Chas. T., Boston, Mass.
Milburn, Helster & Co., Wash., D. C.
Moyer Co., Tilghman, Allentown, Pa.
Preacher & Co., Inc., G. Lloyd, Atlanta.
Squire & Co., J. E., Greenville, S. C.
Wheeler, Walter H., Minneapolis, Minn.

ARCHITECTS' SUPPLIES.

Weber Co., Inc., F., Philadelphia, Pa.

ARCHITECTURAL IRON WORK.

Dietrich Brothers, Baltimore, Md.
Virginia Bridge & Iron Co., Roanoke, Va.

ASPHALT.

Gulf Refining Co., Pittsburgh, Pa.

—(Emulsified.)

Headley Emulsified Products Co., Philadelphia, Pa.

—Filler.

American Limestone Co., Knoxville, Tenn.

—Paving.

Barber Asphalt Co., Philadelphia, Pa.

—(Plants.)

Stimplicity System Co., Chattanooga, Tenn.

AUDITORS.

Ernst & Ernst, New York, N. Y.

BABBITT METAL.

Ryerson & Sons, Inc., Jos. W., St. Louis and New York.

BACKFILLERS.

Harischfeger Corp., Milwaukee, Wis.
National Equipment Corp. (Insley, Parsons), Milwaukee, Wis.

BALLAST (Railroad.)

American Limestone Co., Knoxville, Tenn.

BANKS and TRUST COMPANIES.

Baltimore Commercial Bank, Balto., Md.
Baltimore Trust Co., Baltimore, Md.
Bank of New York & Trust Co., New York City.
First and Merchants National Bank, Richmond, Va.
Provident Savings Bank & Trust Co., Cincinnati, Ohio.

BARGES (Steel.)

American Bridge Co., New York, N. Y.
McClintic-Marshall Co., Pittsburgh, Pa.

BAES (Steel, Rounds, Flats, Hexagon and Squares.)

Carnegie Steel Co., Pittsburgh, Pa.
Carnegie Steel Co., Birmingham, Ala.
Gulf States Steel Co., Birmingham, Ala.
Ingalls Iron Works Co., Birmingham, Ala.
Knoxville Iron Co., Knoxville, Tenn.
Ryerson & Son, Inc., Jos. T., St. Louis and New York.
Sweet's Steel Corp., Williamsport, Pa.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.
Timken Roller Bearing Co., Canton, O.
Virginia Bridge & Iron Co., Roanoke, Va.
Youngstown Sheet & Tube Co., Youngstown, Ohio.

BATTERIES (Storage.)

Electric Storage Battery Co., Phila., Pa.

BEAMS, CHANNELS, ANGLES.

Belmont Iron Works, Philadelphia, Pa.
Carnegie Steel Co., Pittsburgh, Pa.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Ingalls Iron Works Co., Birmingham, Ala.
Timken Roller Bearing Co., Canton, O.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
Ryerson & Son, Inc., Jos. T., St. Louis and New York.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.
Virginia Bridge & Iron Co., Roanoke, Va.

BEARINGS (Anti-friction.)

Timken Roller Bearing Co., Canton, Ohio.

—(Roller.)

Timken Roller Bearing Co., Canton, Ohio.

BELT (Chain.)

Diamond Chain & Mfg. Co., Indianapolis.

—(Leather, Canvas, Rubber.)

Charlotte Leather Belting Co., Charlotte, N. C.
—Dressing.
Charlotte Leather Belting Co., Charlotte, N. C.
Dixon Crucible Co., Jos., Jersey City, N. J.

—Fasteners.

Flexible Steel Lacing Co., Chicago, Ill.

—Lacing (Steel Hinges.)

Flexible Steel Lacing Co., Chicago, Ill.

BELT CONVEYORS.

Barber-Greene Co., Aurora, Ill.

BILLETS (Basic Open Hearth.)

Gulf States Steel Co., Birmingham, Ala.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

BINS (Steel Loading.)

Blaw-Knox Co., Pittsburgh, Pa.
Butler Bin Co., Waukegan, Wis.

BLASTING POWDER and Accessories.

Du Pont de Nemours & Co., E. I., Wilmington, Del.

BLINDS (Venetian and Awning.)

Wilson Corp., The J. G., New York.

BLOCKS (Chain)

Wright Mfg. Co., Bridgeport, Conn.

—(Friction.)

Palmer Asbestos & Rubber Corp., Chicago.

BOILERS (New.)

Babcock & Wilcox Co., The, New York.
Charleston Dry Dock & Machine Co., Charleston, S. C.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Cole Mfg. Co., E. D., Newnan, Ga.
Combustion Engr. Corp., New York, N. Y.
Hedges Walsh Weldner Co., Chattanooga, Tenn.
Lombard Iron Works & Supply Co., Augusta, Ga.
Lookout Boiler & Mfg. Co., Chattanooga, Tenn.
Schofield's Sons Co., J. S., Macon, Ga.
Titusville Iron Works Co., Titusville, Pa.

—(Oil.)

Babcock & Wilcox Co., New York.

—(Scotch Marine.)

Lookout Boiler & Mfg. Co., Chattanooga, Tenn.

—(Used.)

Delta Equipment Co., Philadelphia, Pa.
O'Brien Machinery Co., Philadelphia, Pa.
Randle Machinery Co., The, Cincinnati, O.
Zelnicke Supply Co., W. A., St. Louis.

BOILER SETTINGS.

Babcock & Wilcox Co., New York.

—Tubes.

Babcock & Wilcox Co., New York.
National Tube Co., Pittsburgh, Pa.
Ryerson & Son, Inc., Jos. T., St. Louis and New York.

—Tubes (Charcoal, Iron.)

Reading Iron Co., Reading, Pa.

BOLTS, Rivets, Studs, Washers.

Bethlehem Steel Co., Bethlehem, Pa.
Oliver Iron & Steel Corp., Pittsburgh, Pa.
Progressive Mfg. Co., Torrington, Conn.
Russell, Burdall & Ward Bolt & Nut Co., Port Chester, N. Y.
Ryerson & Son, Inc., Jos. T., St. Louis and New York.
Virginia Bridge & Iron Co., Roanoke, Va.

—(Track.)

Sweet's Steel Co., Williamsport, Pa.

BOND BUYERS.

Hanchett Bond Co., Inc., The, Chicago.
Law & Co., A. M., Spartanburg, S. C.
Nursey & Co., John, Chicago, Ill.
Provident Savings Bank and Trust Co., Cincinnati, Ohio.

BOREINGS (Cora.)

Kennedy-Riegler Drilling Co., New York City.
Mott Core Drilling Co., Huntington, W. Va.
Pennsylvania Drilling Co., Pittsburgh, Pa.
Southern Drilling Co., Saltville, Va.
Sprague & Henwood, Inc., Scranton, Pa.

BOXES (Paper.)

Old Dominion Box Co., Lynchburg, Va.

BRAKE LINING

Palmer Asbestos & Rubber Corp., Chicago.

BRASS GOODS.

Mueller Co., Decatur, Ill.

BRICK (Common Building.)

Friend & Co., Inc., Petersburg, Va.

—(Vitrified, Paving.)

National Paving Brick Mfrs. Assn., Washington, D. C.

—and Clayworking Machy.

Steel & Sons, J. C., Statesville, N. C.

BRIDGE (Operating Machinery.)

Marie Gear & Machine Co., Phila., Pa.

—Slabs

Kerlow Steel Flooring Co., Jersey City, N. J.

—Timber.

American Crocoting Co., Louisville, Ky.
Kirby Lumber Co., Houston, Texas.

BRIDGES (Steel.)

American Bridge Co., New York, N. Y.
Belmont Iron Works, Philadelphia, Pa.
Bristol Steel & Iron Works, Inc., Bristol, Va.
Converse Bridge & Steel Co., Chattanooga, Tenn.
Ingalls Iron Works Co., Birmingham, Ala.
McClintic-Marshall Co., Pittsburgh, Pa.
Roanoke Iron & Bridge Works, Roanoke, Va.
Virginia Bridge & Iron Co., Roanoke, Va.

BRONZE (Architectural.)

Heath Company, J. S., Waukegan, Ill.
Michaels Art Bronze Co., Covington, Ky.

BUBBLERS.

Bundie-Spence Mfg. Co., Milwaukee, Wis.

BUCKETS (Clam Shell.)

Blaw-Knox Co., Pittsburgh, Pa.
Industrial Brownhoist Corp., Cleveland, O.
Owen Bucket Co., The, Cleveland, Ohio.
Williams Company, G. H., Erie, Pa.

—(Coal.)

Owen Bucket Co., Cleveland, O.

—(Dredging, Excavating, Sewer, etc.)

Owen Bucket Co., The, Cleveland, Ohio.
Stuebner Iron Works, G. L., Long Island City, N. Y.
Williams Company, G. H., Erie, Pa.

—(Elevator.)

Hendrick Mfg. Co., Carbondale, Pa.

—(Material Handling.)

Owen Bucket Co., Cleveland, O.

—(Ore Handling.)

Owen Bucket Co., The, Cleveland, Ohio.
Stuebner Iron Works, G. L., Long Island City, N. Y.

—(Rehandling.)

Owen Bucket Co., Cleveland, O.

—(Sand and Gravel.)

Owen Bucket Co., Cleveland, O.
Williams Company, G. H., Erie, Pa.

BUILDERS and Contractors.

Copper Co., Inc., The John W., Richmond, Va.
Lockwood Greene Engrs., Inc., Boston.
Moyer Co., Tilghman, Allentown, Pa.
Thompson & Bros., T. C., Charlotte, N. C.
United Engineers & Constructors, Phila.
White Engineering Corp., J. G., New York

BUILDINGS (Industrial.)

Belmont Iron Works, Philadelphia, Pa.
Blaw-Knox Co., Pittsburgh, Pa.
Ingalls Iron Works Co., Birmingham, Ala.
McClintic-Marshall Co., Pittsburgh, Pa.
Tennessee Coal, Iron & Railroad Co., Youngstown, O.
Virginia Bridge & Iron Co., Roanoke, Va.

—(Portable Sheet Metal.)

Birmingham Tank Co., Birmingham.

BULKHEADS.

Shore-Line Builders, Inc., Jacksonville, Fla.
Snare Corp., Frederick, New York, N. Y.

BULLDOZERS.

Trackson Co., Milwaukee, Wis.

BURLAP.

Fulton Bag & Cotton Mills, Atlanta, Ga.

BUSINESS METHODS.

Ernst & Ernst, New York, N. Y.

CABLE (Elevator.)

American Steel & Wire Co., Chicago, Ill.
Roebbling's Sons Co., John A., Trenton, N. J.

—(Stud Link.)

Woodhouse Chain Works, Trenton, N. J.

—and Wire (Electric.)

American Steel & Wire Co., Balto., Md.
Roebbling's Sons Co., John A., Trenton, N. J.
Western Electric Co., New York City

CALCIUM CHLORIDE.

Grasselli Chemical Co., Inc., Birmingham

CAN and Box-Making Machinery (Tin.)

Bliss Co., E. W., Brooklyn, N. Y.

CANNING MACHINERY.

Robins & Co., A. K., Baltimore, Md.

CANVAS.

Fulton Bag & Cotton Mills, Atlanta, Ga.

CAR (Loaders and Unloaders)

Barber-Greene Co., Aurora, Ill.

CARS (Dump, Industrial, Logging and Mine.)

Atlas Car & Mfg. Co., The, Cleveland, O.
Southern Iron & Equipment Co., Atlanta

AMERICAN BRIDGE COMPANY

Subsidiary of United States Steel Corporation

STEEL STRUCTURES BRIDGES & BUILDINGS

GENERAL OFFICES: 71 BROADWAY, NEW YORK, N. Y.
CONTRACTING OFFICES IN PRINCIPAL CITIES


CONVERSE BRIDGE & STEEL CO. STRUCTURAL STEEL

For
Industrial Buildings, Mines, Refineries,
and the Building Trades

CHATTANOOGA TENNESSEE

BOILERS SAW MILLS

Largest Works of the Kind in the South
Engines—Pumps—Boiler Tubes—Grate Bars—Castings
LOMBARD IRON WORKS & SUPPLY CO.
AUGUSTA, GA.
Reinforcing Bars—Structural, Bar and Sheet Steel
Parts and Repairs Belting—Packing
TANKS STACKS



WOODHOUSE CHAINS
Stand the Gaff
WOODHOUSE CHAIN WORKS
Trenton New Jersey

TITUSVILLE POWER AND
HEATING BOILERS
FOR ALL
INDUSTRIAL REQUIREMENTS
THE
TITUSVILLE
IRON WORKS CO.
TITUSVILLE, PENNA.



WIRE • WIRE ROPE
COPPER AND INSULATED
WIRES AND CABLES
ROEBLING WIRE ROPE
"BLUE CENTER" STEEL
John A. Roebling's Sons Co., Trenton, N. J. Branches in Principal Cities

Bristol Steel & Iron Works, Inc.

STRUCTURAL STEEL FOR BRIDGES, BUILDINGS
AND ALL INDUSTRIAL PURPOSES
STEEL PLATE & MISCELLANEOUS IRON WORK
BRISTOL, VA.—TENN.

Le Bourg AERIAL TOWER

Better Reception For Your Radio!

Radio reception is clearer and stronger, with less man-made static, when LeBOURG STEEL AERIAL TOWERS are used. Installed in a few minutes on any type roof. At your dealer, or sent expressed prepaid with instructions, for \$3.00. Descriptive folder on request. Attractive discount to agents, and jobbers.

A. LeBOURG, GADSDEN, ALA.

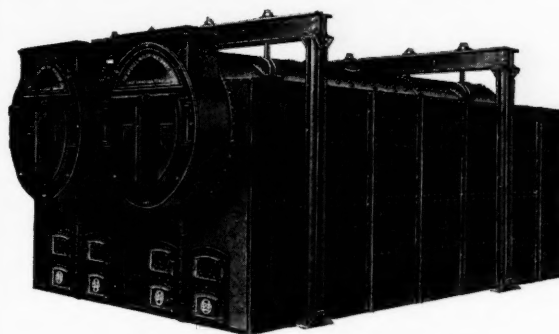
TARPAULINS, TENTS

Roll Duck and Burlap

Contractors and manufacturers should write our nearest plant for prices before buying anything in this line.

Fulton Bag & Cotton Mills

St. Louis Kansas City, Mo. Minneapolis New Orleans Dallas



BOILERS

(Return Tubular)

STEEL CASINGS
STACKS BREECHINGS

TANKS

for every purpose

FABRICATED STEEL PLATES

Up to 3" Thick

Write For Prices

THE HEDGES WALSH WEIDNER CO.

Main Office and Works

CHATTANOOGA, TENNESSEE

Eastern Office: 200 Madison Ave., New York, N. Y.

Subsidiary International Combustion Engineering Corporation

Steps (Safety.)

Irving Iron Works Co., Long Island City, N. Y.

CASSIONS (Foundations, Water Wells, etc.)
United Welding Co., Middletown, O.

CASTINGS (Alloy.)

Mountain State Steel Foundries, Parkersburg, W. Va.

—(Brass, Bronze and Aluminum.)

Richmond Foundry & Mfg. Co., Richmond, Va.
Savannah Mch. & Fdry. Co., Savannah, Ga.

—(Chilled Iron.)

Fuller Lehigh Co., Fullerton, Penna.

—(Gray Iron.)

Fuller Lehigh Co., Fullerton, Penna.
Glamorgan Pipe & Fdry. Co., Lynchburg, Va.
Jefferson Foundry Co., Birmingham, Ala.
National Cast Iron Pipe Co., Birmingham, Ala.
Richmond Foundry & Mfg. Co., Richmond, Va.
Salem Fdry. & Mch. Wks., Salem, Va.
Savannah Mch. & Fdry. Co., Savannah, Ga.
Schofield's Sons Co., J. S., Macon, Ga.
U.S. Pipe & Foundry Co., Burlington, N.J.

—(Malleable Iron and Steel.)
Timken Roller Bearing Co., Canton, O.

—(Semi-Steel.)

Jefferson Foundry Co., Birmingham, Ala.
Salem Fdry. & Mch. Wks., Salem, Va.

—(Steel.)

Bethlehem Steel Co., Bethlehem, Pa.
Crucible Steel Casting Co., Lansdowne, Delaware Co., Pa.
Lunkenshimer Co., Cincinnati, Ohio.
Mountain State Steel Foundries, Parkersburg, W. Va.

CEMENT (Portland.)

Alpha Portland Cement Corp., Birmingham, Ala.

—Guns.

Cement-Gun Co., Inc., Allentown, Pa.

—Machinery.

Traylor Engr. & Mfg. Co., Allentown, Pa.

CHAIN BLOCKS (See Blocks, Chain.)

CHAINS (Dredge, Quarry, Steam Shovel.)

Knoxville Iron Co., Knoxville, Tenn.
Woodhouse Chain Works, Trenton, N. J.

—(High Speed Roller.)

Diamond Chain & Mfg. Co., Indianapolis.

—(Silent Drive.)

Diamond Chain & Mfg. Co., Indianapolis.

—(Welded.)

Woodhouse Chain Works, Trenton, N. J.

CHAIRES (Opera and Theatre.)

Andrews Co., A. H., Chicago, Ill.

CHEMICALS.

Daivison Chemical Co., Baltimore, Md.
Grasselli Chemical Co., Inc., Birmingham.

CHEMISTS, CHEMICAL ENGINEERS (Analytical.)

Barrow-Agee Laboratories, Memphis, Tenn.
Broehling & Robertson, Inc., Richmond, Va.
Hunt Co., Robert W., Chicago, Ill.
Longdale Laboratories, Inc., Richmond, Va.
Meigs, Bassett & Slaughter, Phila., Pa.
Moss, Jr., W. Wade, Columbus, Ga.
Picard Laboratories, Birmingham, Ala.
Pittsburgh Testing Laboratories, Pittsburgh, Pa.
Southwestern Laboratories, Fort Worth, Tex.
Stillman & Van Biele, New York.

—(Consulting, Paper Industry.)

Broehling & Robertson, Inc., Richmond, Va.

CHIMNEYS (Concrete.)

Rust Engineering Co., Birmingham, Ala.

—(Radial Brick.)

Northwestern Chimney Constr. Co., Cleveland, O.

Rust Engineering Co., Birmingham, Ala.

—Inspected and Repaired.

Northwestern Chimney Constr. Co., Cleveland, O.

CHLORIDE ACCUMULATOR.

Electric Storage Battery Co., Phila., Pa.

CHUTES.

Cutler Mail Chute Co., Rochester, N. Y.

CIRCUIT BREAKERS.

Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa.

CLOCKS (Watchman's Portable.)

Davis-Paradis Watchman's Clock Corp., New York, N. Y.

CLOTH (Wire.)

Newark Wire Cloth Co., Newark, N. J.

CLUTCHES (Friction.)

Caldwell Co., Inc., W. E., Louisville, Ky.

COAL (Bituminous.)

Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

—and Ash-Handling Mch.

Industrial Brownhoist Corp., Cleveland, O.
Northwest Engineering Co., Chicago, Ill.

—Jigs.

Steward Machine Co., Chas. C., Birmingham, Ala.

—Tipplers.

American Bridge Co., New York, N. Y.
Virginia Bridge & Iron Co., Roanoke, Va.

—Washers.

Steward Machine Co., Chas. C., Birmingham, Ala.

COATINGS (Protective.)

Headley Emulsified Products Co., Philadelphia, Pa.

COCKS (Service.)

Mercer Nordstrom Valve Co., San Francisco, Calif.

COKE.

Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

COLUMNS (Cast Iron.)

U. S. Pipe & Fdry. Co., Burlington, N. J.

CONCRETE (Block Machinery.)

Blystone Mfg. Co., Cambridge Springs, Pa.

—Construction (Reinforced.)

Cement-Gun Co., Inc., Allentown, Pa.
Cement Gun Construction Co., Chicago.
Rust Engineering Co., Birmingham, Ala.

—Floor Slabs.

Federal-American Cement Tile Co., Chicago.

—Mixers.

Blystone Mfg. Co., Cambridge Springs, Pa.
Dunning & Besebert Press Co., Inc., Syracuse, N. Y.
Jaeger Machine Co., Columbus, Ohio.

—Pipe Machinery (See Pipe Machinery, Concrete.)

—Placing Equipment.

National Equipment Corp. (Insley Division), Milwaukee, Wis.

—Roofing Tile.

Federal-American Cement Tile Co., Chicago.

CONDENSERS.

Manitowoc Iron Works Co., Manitowoc, Mich.
Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa.

CONDUITS (Electric, Interior, Steel.)

Western Electric Co., New York, N. Y.
Youngstown Sheet & Tube Co., Youngstown, Ohio.

CONTRACTORS (Bridge.)

Hardway Contracting Co., Columbus, Ga.
Kansas City Bridge Co., Kansas City, Mo.
Snare Corp., Frederick, New York, N. Y.

—(Drainage and Dredging.)

Arundel Corp., The, Baltimore, Md.
Atlantic Gulf and Pacific Co., New York.

—(Electrical.)

Virginia Engineering Co., Inc., Newport News, Va.
Walker Electrical Co., Atlanta, Ga.
Warner Services Co., Knoxville, Tenn.
Webb Electric Co., Anderson, S. C.

—(Foundations and Dams.)

Snare Corp., Frederick, New York, N. Y.

—(General.)

Blair, Algernon, Montgomery, Ala.
Burkes, Inc., J. V. & E. T., New Orleans.
Cornell Young Co., Inc., Macon, Ga.
Cowper Co., Inc., John W., Richmond, Va.
Flake-Carter Constr. Co., Greenville, S. C.
Gridley Constr. Co., Lee A., Knoxville, Tenn.
Saville, Inc., Allen J., Richmond, Va.

Smallman-MacQueen Construction Co., Birmingham.

Snare Corp., Frederick, New York, N. Y.
Thompson & Bros., T. C., Charlotte, N. C.
Tucker & Lorton, Charlotte, N. C.
White Engineering Corp., J. G., New York.

—(Industrial Buildings.)

Blair, Algernon, Montgomery, Ala.
Cowper Co., Inc., John W., Richmond, Va.
Flake-Carter Constr. Co., Greenville, S. C.
Lockwood Greene Engrs., Inc., Boston.
Smallman-MacQueen Construction Co., Birmingham.
Snare Corp., Frederick, New York, N. Y.
Thompson & Bros., T. C., Charlotte, N. C.
Tucker & Lorton, Charlotte, N. C.
Virginia Engineering Co., Inc., Newport News, Va.
White Engineering Corp., J. G., New York.

—Mill Village.

Hornbuckle Contracting Co., Atlanta, Ga.

—(Power Piping.)

Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.
Poe Piping & Heating Co., Greenville, S. C.

—(Power Plants.)

Snare Corp., Frederick, New York, N. Y.
Virginia Engineering Co., Inc., Newport News, Va.

—(Railroad.)

Cornell-Young Co., Inc., Macon, Ga.

—(Reinforced Concrete.)

Blair, Algernon, Montgomery, Ala.
Cement Gun Construction Co., Chicago.
Gunite Conc. & Constr. Co., Kansas City.
Tucker & Lorton, Charlotte, N. C.

—(Road and Street Paving.)

Flake-Carter Constr. Co., Greenville, S. C.
Gridley Constr. Co., Lee A., Knoxville, Tenn.
Hornbuckle Contracting Co., Atlanta, Ga.
McCrory Co., J. B., Atlanta, Ga.
Virginia Engineering Co., Inc., Newport News, Va.

—(Sewerage and Waterworks.)

Gridley Constr. Co., Lee A., Knoxville, Tenn.
Hardway Contracting Co., Columbus, Ga.
Hornbuckle Contracting Co., Atlanta, Ga.
McCrory Co., The J. B., Atlanta, Ga.
Snare Corp., Frederick, New York, N. Y.
Tucker & Lorton, Charlotte, N. C.
Virginia Engineering Co., Inc., Newport News, Va.

—(Sprinkler System.)

Poe Piping & Heating Co., Greenville, S. C.

—Machinery and Supplies.

Adams Mch. Co., T. G., Savannah, Ga.
Lima Excavator Sales Agency, Lima, Ohio.
Marine Metal & Supply Co., New York.

CONTRACT WORK WANTED.

(See following classifications:)
Boiler and Tank Work.
Castings.
Forgings.
Foundries and Machine Shops.
Machinery (Special).
Ornamental Iron Work.
Patterns.
Sheet Metal Work.
Structural Steel and Iron.
Welding Plants.

CONVEYING AND ELEVATING MACHINERY.

Barber-Greene Co., Aurora, Ill.
Fairfield Engr. Co., Marion, Ohio.
Universal Crusher Co., Cedar Rapids, Ia.

CONVEYORS (Portable, Power-Driven.)

Clark Tractor Co., Battle Creek, Mich.
Fairfield Engr. Co., Marion, Ohio.

COOLING AND HEATING UNITS (Fan.)

Niagara Blower Co., New York, N. Y.

COTTON GIN MACHINERY.

Continental Gin Co., Birmingham, Ala.

COUPLINGS.

Golden Fdy. & Mch. Co., Columbus, Ga.

—(Flexible.)

Diamond Chain & Mfg. Co., Indianapolis, Ind.

CRANES

Industrial Brownhoist Corp., Cleveland, O.
National Equipment Co. (Insley, Koehring, Parsons), Milwaukee, Wis.

Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.
Thew Shovel Co., The, Lorain, Ohio.

—(Cantilever, Gantry.)

Bedford Foundry & Machine Co., Bedford, Ind.

—(Crawler.)

Harnischfeger Corp., Milwaukee, Wis.
Industrial Brownhoist Corp., Cleveland, O.
Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.
Thew Shovel Co., The, Lorain, Ohio.

—(Crawling Tractor.)

Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.
Thew Shovel Co., The, Lorain, Ohio.

—(Electric Traveling.)

Bedford Foundry & Machine Co., Bedford, Ind.
Harnischfeger Corp., Milwaukee, Wis.

—(Full Circle Steam and Electric.)

Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.
Thew Shovel Co., The, Lorain, Ohio.

—(Gasoline.)

Harnischfeger Corp., Milwaukee, Wis.
Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.
Thew Shovel Co., The, Lorain, Ohio.

—(Locomotive.)

Bucyrus-Erie Co., So. Milwaukee, Wis.
Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.
Thew Shovel Co., The, Lorain, Ohio.

—(Material Handling.)

Bay City Shovels, Inc., Bay City, Mich.
Industrial Brownhoist Corp., Cleveland, O.
Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.
Thew Shovel Co., The, Lorain, Ohio.
Universal Crane Co., Lorain, Ohio.

—(Traveling Head Power.)

Wright Mfg. Co., Bridgeport, Conn.

CRAWLERS (Tractor.)

Trackson Co., Milwaukee, Wis.

CREOSOTED MATERIALS.

Amer. Creosote Wks., Inc., New Orleans.
Atlantic Creosoting Co., Norfolk, Va.

CREOSOTED TIMBER.

Ayer & Lord Tie Co., Chicago, Ill.
Brown Wood Preserving Co., Louisville, Ky.

CREOSOTE OIL.

Amer. Creosote Wks., Inc., New Orleans.
Ayer & Lord Tie Co., Inc., Chicago.

CREOSOTING (Wood Material.)

Amer. Creosote Wks., Inc., New Orleans.
Amer. Creosoting Co., Inc., Louisville, Ky.
Atlantic Creosoting Co., Norfolk, Va.
Brown Wood Preserving Co., Louisville, Ky.
Eppinger & Russell Co., New York, N. Y.
Gulf States Creos. Co., Hattiesburg, Miss.

CROSS-ARMS (Creosoted.)

Amer. Creosote Wks., Inc., New Orleans.
Amer. Creosoting Co., Inc., Louisville, Ky.
Atlantic Creosoting Co., Norfolk, Va.

—(Zinc Meta Arsenite Treated.)

Curtin-Howe Corp., New York, N. Y.

CROSS-TIES (Creosoted.)

Amer. Creosote Wks., Inc., New Orleans.
Amer. Creosoting Co., Inc., Louisville, Ky.
Atlantic Creosoting Co., Norfolk, Va.
Ayer & Lord Tie Co., Inc., Chicago.
Eppinger & Russell Co., New York, N. Y.

—(Zinc Meta Arsenite Treated.)

Curtin-Howe Corp., New York, N. Y.

CRUSHED STONE (Road Concrete and Ballast.)

American Limestone Co., Knoxville, Tenn.
Boxley & Co., W. W., Roanoke, Va.

CRUSHERS (Coal and Coke.)

Fuller Lehigh Co., Fullerton, Penna.
Steward Machine Co., Chas. C., Birmingham, Ala.

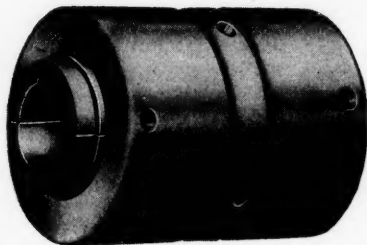
—(Rock.)

Diamond Iron Works, Minneapolis, Minn.
Universal Crusher Co., Cedar Rapids, Ia.

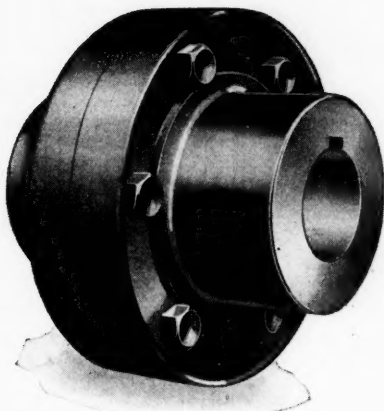
CRUSHING and Pulverizing Machinery.

Allis-Chalmers Mfg. Co., Milwaukee, Wis.

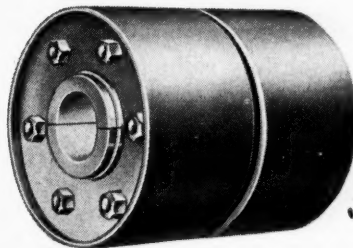
SHAFT COUPLINGS



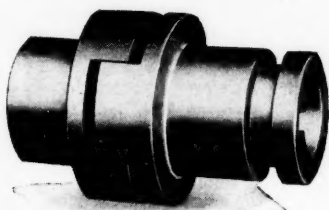
Patent Compression Coupling



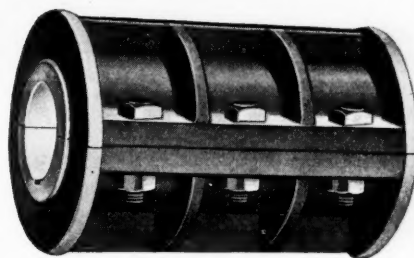
Flange Coupling



Double Compression Coupling



Jaw Clutch Coupling



Clamp Coupling

GOLDENS' FOUNDRY & MACHINE CO., COLUMBUS, GA.

"We have furnished more Complete and Partial Pulley and Shafting Equipment to Cotton Mills than any other manufacturer in the United States"



A Repair Job

**RADIAL BRICK
CHIMNEYS**
Designed and Built
OLD CHIMNEYS

Inspected and repaired while
in operation—also guaranteed.

Among our customers are some of the
best known Railroads, Waterworks; and
Coke, Steel, Machinery, Paper, Soap, Chemical
and Glass Manufacturers.

Let us quote on your requirements

**The NORTHWESTERN CHIMNEY
CONSTRUCTION CO.**

FIDELITY BLDG. Cleveland, O.



New Erection

**BRICK—CHIMNEYS—CONCRETE
BOILER BRICKWORK**
The Rust Engineering Co.
Engineers and Contractors
BIRMINGHAM, ALABAMA
PITTSBURGH—WASHINGTON—NEW YORK—CHICAGO

ELECTRIC STEEL CASTINGS
Weighing from 1 lb. to 500 lbs. each

Quantity Production A Specialty

Quick Delivery

Nickel, Chrome and Other Alloy

Inquiries Solicited

CRUCIBLE STEEL CASTING COMPANY
LANDOWNE, DELAWARE COUNTY, PA.

HIGH GRADE GRAY IRON & SEMI-STEEL CASTINGS

From one pound to ten thousand pounds.
Careful attention to detail.
Your requirements solicited, quick service.

JEFFERSON FOUNDRY COMPANY
Birmingham, Alabama

P. O. Box 147

Phone 9-4850

**WE MAKE A SPECIALTY OF
HIGH GRADE GREY IRON AND
SEMI-STEEL CASTINGS**

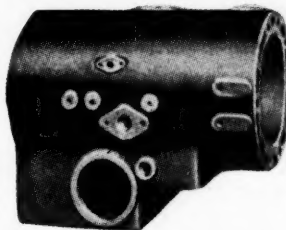
All Kinds of Machine Work.
Prices Will Suit You.

Special Machines Made to Order.
Prompt Service.

Salem Foundry & Machine Works

Salem, Va.

**GRAY IRON, BRASS AND ALUMINUM
CASTINGS**



We cater to high class work,
anxious to figure with firms
where dependable castings are
required.

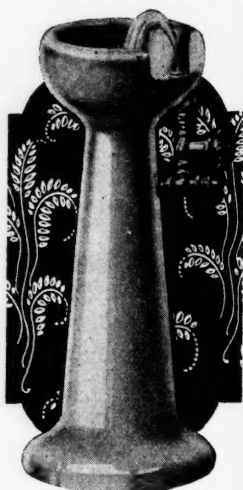
Prepared to mold and machine,
if required, the most complicated
work, all castings guaranteed.

Served by five railroads and all
the boat lines on the
eastern coast.

SAVANNAH MACHINE & FOUNDRY CO.
632-636 Indian Street, **SAVANNAH, GEORGIA**

"TO HEALTH"

So speaks the man approaching the Rundle - Spence drinking fountain. And he is absolutely right for more reasons than one. These are the only fountains with Vertico-Slant water bubbling... a feature that prevents water contamination. And it's the only fountain with a jet that lips cannot touch.



Complete information on these colored-to-suit sanitary drinking fountains is yours for the asking. Write for our new catalog.

RUNDLE-SPENCE MFG. CO.

442 No. Fourth St.

Milwaukee, Wisconsin

RUNDLE-SPENCE

LIPS CAN NOT TOUCH THE R-S NOZZLE



AMERICAN ELEVATORS
PASSENGER AND FREIGHT
AMERICAN
ELEVATOR and MACHINE CO., INC.
Established in 1893
LOUISVILLE, KENTUCKY



SCHOOL DESKS

THE H. H. Andrews Co.
CHICAGO
107 So. Wabash Avenue

ALLIS-CHALMERS MFG. CO.
MILWAUKEE WIS. U. S. A.

DESIGNERS AND BUILDERS OF

Steam Turbines, Electrical Machinery, Steam, Gas and Oil Engines, Centrifugal Pumps, Crushing & Cement Machinery, Etc.

TRAYLOR

HAS UNSURPASSED FACILITIES FOR HEAVY
STEEL PLATE WORK OF ANY DESCRIPTION

SEND YOUR INQUIRIES TO US

ALLENTOWN PENNA

Diamond Iron Works, Minneapolis, Minn.
Fuller Lehigh Co., Fullerton, Pa.
Traylor Engr. & Mfg. Co., Allentown, Pa.
Universal Crusher Co., Cedar Rapids, Ia.

Myers & Sons, J. L., Denton, Texas.
Pennsylvania Drilling Co., Pittsburgh, Pa.
Southern Drilling Co., Salisbury, Va.
Sprague & Howland, Inc., Scranton, Pa.

CULVERT PIPE (Cast Iron.)

Amer. Cast Iron Pipe Co., Birmingham.
Cast Iron Pipe Research Assn., Chicago.
National Cast Iron Pipe Co., Birmingham.
U. S. Pipe & Foundry Co., Burlington, N.J.

—(Corrugated Metal.)

American Sheet & Tin Plate Co., Pittsburgh, Pa.

CURE PROTECTORS. (Steel Bar.)

Truscon Steel Co., Youngstown, Ohio.

CYLINDERS (Compressed Air, Gas.)

National Tube Co., Pittsburgh, Pa.

—(Creosoting.)

Alco Products, Inc., New York, N. Y.

DAMP-PROOFING.

Headley Emulsified Products Co., Philadelphia, Pa.

DESKS (School.)

Andrews Co., A. H., Chicago, Ill.

DITCHING MACHINERY.

Barber-Greene Co., Aurora, Ill.
Bay City Shovels, Inc., Bay City, Mich.
Harnischfeger Corp., Milwaukee, Wis.
Industrial Brownhoist Corp., Cleveland, O.
Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.

DOORS (Bronze.)

Michaels Art Bronze Co., Covington, Ky.

—(Fire.)

Merchant & Evans Co., Philadelphia, Pa.

—(Fireproof, Air Chamber.)

Wilson Corp., The J. G., New York.

—Revolving.

Michaels Art Bronze Co., Covington, Ky.

—(Rolling, Steel and Wood.)

Wilson Corp., The J. G., New York.

—(Steel.)

Truscon Steel Co., Youngstown, Ohio.

—(Tubular Steel.)

Bayley Co., Wm., Springfield, O.

—(Vault.)

York Safe & Lock Co., York, Penna.

DRAFTSMEN'S SUPPLIES.

Weber Co., Inc., F., Philadelphia, Pa.

DREDGE EXCAVATORS.

Bucyrus-Erie Co., So. Milwaukee, Wis.
Harnischfeger Corp., Milwaukee, Wis.
National Equipment Corp. (Kochring, Inc.), Milwaukee, Wis.
Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.
Thew Shovel Co., The, Lorain, Ohio.

DREDGES (Dipper, Elevator, Hydraulic.)

Bay City Shovels, Inc., Bay City, Mich.
Bucyrus-Erie Co., So. Milwaukee, Wis.

DREDGING (River and Harbor Improvement.)

Armedel Corp., The, Baltimore, Md.
Atlantic Gulf and Pacific Co., New York.

DRILLING CONTRACTORS.

Kennedy-Biegger Drilling Co., New York City.
Metz Core Drilling Co., Huntington, W. Va.

DRILLS (Oil and Artesian Well)

Virginia Machinery & Well Co., Inc., Richmond, Va.

DRINKING FOUNTAINS.

Rundle-Spence Mfg. Co., Milwaukee, Wis.

DROP-FORGING MACHINERY.

Bliss Co., E. W., Brooklyn, N. Y.

DRYERS (Gravel and Sand.)

Ripley Fdy. & Mch. Co., Ripley, Ohio.

DRY KILNS and Equipment.

Moore Dry Kiln Co., Jacksonville, Fla.

DRYING MACHINERY.

Chicago Bridge & Iron Wks., Birmingham.

DUST-PROOFING (Concrete.)

Sonneborn Sons, Inc., L., New York.

DYNAMITE (Industrial and Agricultural.)

Du Pont De Nemours & Co., Inc., E. I., Wilmington, Del.

ECONOMIZERS (Fuel.)

Babcock & Wilcox Co., New York.

ELECTRICAL Instruments and Supplies.

General Electric Co., Schenectady, N. Y.
Western Electric Co., New York City.

—Machinery (Generators, Motors, etc., New.)

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Fairbanks, Morse & Co., Chicago, Ill.
General Electric Co., Schenectady, N. Y.
Rockford Power Machy. Co., Rockford, Ill.
Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa.

—Machinery (Generators, Motors, etc., Used.)

Delta Equipment Co., Philadelphia, Pa.
Electric Service Co., Cincinnati, Ohio.
General Electric Co., Schenectady, N. Y.
O'Brien Machinery Co., The, Phila., Pa.
Randle Machinery Co., The, Cincinnati, O.
Rockford Power Machy. Co., Rockford, Ill.

—Machinery Repairing (Motors, Generators, etc.)

Electric Service Co., Cincinnati, Ohio.

ELECTRIC LIGHTING.

Westinghouse Lamp Co., New York City

ELECTRIC SHOVELS (See Shovels.)

ELEVATORS (Electric.)

American Elevator & Machine Co., Inc., Louisville, Ky.
Miller Co., St. Louis, Mo.

—(Hand and Belt Power.)

American Elevator & Machine Co., Inc., Louisville, Ky.
Miller Co., St. Louis, Mo.

—(Hydraulic.)

American Elevator & Machine Co., Inc., Louisville, Ky.

ENGINEERS (Airports.)

Lockwood Greene Engrs., Inc., New York.
MacElwain & Crandall, Inc., Cambridge, Mass.
Shaw Co., Russell B., St. Louis, Mo.

—(Appraisal.)

Lockwood Greene Engrs., Inc., New York.
Main, Inc., Chas. T., Boston, Mass.
May, Inc., Geo. S., Chicago, Ill.

Sanderson & Porter, New York, N. Y.
Wadleigh & Bailey, Washington, D. C.
White Engineering Corp., J. G., New York
Whitman, Requaardt & Smith, Balto., Md.
Wiedeman and Singleton, Inc., Atlanta.

—(Aviation.)

Shaw Co., Russell B., St. Louis, Mo.

—(Bridge.)

Freeland, Roberts & Co., Nashville, Tenn.
Gardner & Howe, Memphis, Tenn.
Greiner & Co., J. E., Baltimore, Md.
Hardaway Contracting Co., Columbus, Ga.
Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.
Southern Erectors, Inc., Tampa, Fla.
Steel & Lobby, Knoxville, Tenn.
Turner, C. A. P., Minneapolis, Minn.
Virginia Bridge & Iron Co., Roanoke, Va.
Wheeler, Walter H., Minneapolis, Minn.
Whitman, Requaardt & Smith, Balto., Md.
Wiley & Wilson, Lynchburg, Va.

—(Chemical.)

Barrow-Agee Laboratories, Memphis, Tenn.
Dow & Smith, New York, N. Y.
Moss, Jr., W. Wade, Columbus, Ga.
Picard Laboratories, Birmingham, Ala.
Pittsburgh Testing Laboratories, Pittsburgh, Pa.

—(Civil.)

Charlton & Davis, Ft. Lauderdale, Fla.
Gardner & Howe, Memphis, Tenn.
Greiner & Co., J. E., Baltimore, Md.
Harrah Engr. Co., C. N., Nashville, Tenn.
Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.
Hills & Youngberg, Jacksonville, Fla.
Huey, S. E., Monroe, La.
MacElwee & Crandall, Inc., Cambridge, Mass.
Main, Inc., Chas. T., Boston, Mass.
Steel & Lobby, Knoxville, Tenn.
White Engineering Corp., J. G., New York
Whitman, Requaardt & Smith, Balto., Md.
Wiley & Wilson, Lynchburg, Va.

—(Consulting.)

Barstow & Co., W. S., New York City.
Charlton & Davis, Ft. Lauderdale, Fla.
Converse & Co., J. B., Mobile, Ala.
Cramer, Robert, Milwaukee, Wis.
Engineering Service Corp., Houston, Tex.
Goder, Joseph, Chicago, Ill.
Harna Engineering Co., Chicago.
Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.
Lockwood Greene Engrs., Inc., New York.
Main, Inc., Chas. T., Boston, Mass.
Smith, Elroy G., Augusta, Ga.
Stillman & Van Sien, New York, N. Y.
United Engineers & Constructors, Phila.
Wadleigh & Bailey, Washington, D. C.
White Engineering Corp., J. G., New York
Whitman, Requaardt & Smith, Balto., Md.
Wiedeman & Singleton, Inc., Atlanta, Ga.
Wiley & Wilson, Lynchburg, Va.

—(Cost.)

Ernst & Ernst, New York, N. Y.
May, Inc., Geo. S., Chicago, Ill.

—(Dams.)

Alpaugh & Sons, Chas. W., Manassas, Va.
Barstow & Co., W. S., New York City.
Byllesby Engineering and Management Corp., Chicago, Ill.
Gardner & Howe, Memphis, Tenn.
Hardaway Contracting Co., Columbus, Ga.
Harna Engineering Co., Chicago.
Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.
Lee, William S., Charlotte, N. C.
Main, Inc., Chas. T., Boston, Mass.
Sitrine & Co., J. E., Greenville, S. C.
Tucker & Lorton, Charlotte, N. C.
Wheeler, Walter H., Minneapolis, Minn.
White Engineering Corp., J. G., New York
Wiedeman & Singleton, Inc., Atlanta, Ga.
Wiley & Wilson, Lynchburg, Va.

—(Drainage and Irrigation.)

Cramer, Robert, Milwaukee, Wis.
Hills & Youngberg, Jacksonville, Fla.
Huey, S. E., Monroe, La.

—(Efficiency.)

Ernst & Ernst, New York, N. Y.
Whitman, Requaardt & Smith, Balto., Md.

—(Electrical.)

Engineering Service Corp., Houston, Tex.
Hosler Engineering Co., Chicago, Ill.
Lee, William S., Charlotte, N. C.
Lockwood Greene Engrs., Inc., New York.
Main, Inc., Chas. T., Boston, Mass.
Sanderson & Porter, New York, N. Y.
Tucker & Lorton, Charlotte, N. C.
Webb Electric Co., Anderson, S. C.
White Co., Gilbert C., Durham, N. C.
Wiley & Wilson, Lynchburg, Va.

—(Electric-Light and Power Plants.)

Barstow & Co., W. S., New York City.
Byllesby Engineering and Management Corp., Chicago, Ill.
Cramer, Robert, Milwaukee, Wis.
Lee, William S., Charlotte, N. C.
Main, Inc., Chas. T., Boston, Mass.
Sanderson & Porter, New York, N. Y.
Scodfield Engineering Co., Philadelphia.
Tucker & Lorton, Charlotte, N. C.

White Engineering Corp., J. G., New York
White Co., Gilbert C., Durham, N. C.
Wiley & Wilson, Lynchburg, Va.

—(Flood Control.)

Harna Engineering Co., Chicago.

—(Gas.)

Byllesby Engineering and Management Corp., Chicago, Ill.
Huey, S. E., Monroe, La.

—(Geological.)

De Kalb, Courtenay, New York City.
Froehling & Robertson, Richmond, Va.
Moss, Jr., W. Wade, Columbus, Ga.
Wadleigh & Bailey, Washington, D. C.

—(Harbor Improvements.)

Engineering Service Corp., Houston, Tex.

—(Heating.)

Wiley & Wilson, Lynchburg, Va.

—(Hydraulic.)

Alpaugh & Sons, Chas. W., Manassas, Va.
Harna Engineering Co., Chicago.
Main, Inc., Chas. T., Boston, Mass.
Whitman, Requaardt & Smith, Balto., Md.
Wiley & Wilson, Lynchburg, Va.

—(Hydro-electric.)

Alpaugh & Sons, Chas. W., Manassas, Va.
Barstow & Co., W. S., New York City.
Byllesby Engineering and Management Corp., Chicago, Ill.
Harna Engineering Co., Chicago.
Lee, William S., Charlotte, N. C.
Main, Inc., Chas. T., Boston, Mass.
Sanderson & Porter, New York, N. Y.
Scodfield Engineering Co., Philadelphia.
Sitrine & Co., J. E., Greenville, S. C.
Tucker & Lorton, Charlotte, N. C.
White Engineering Corp., J. G., New York
Whitman, Requaardt & Smith, Balto., Md.
Wiley & Wilson, Lynchburg, Va.

—(Ice and Refrigerating.)

Engineering Service Corp., Houston, Tex.

—(Industrial Plants.)

Barstow & Co., W. S., New York City.
Consoer, Older & Quinlan, Inc., Chicago.
Converse & Co., J. B., Mobile, Ala.
Gardner & Howe, Memphis, Tenn.
Greiner & Co., J. E., Baltimore, Md.
Hills & Youngberg, Jacksonville, Fla.
Lockwood Greene Engrs., Inc., New York.
MacElwee & Crandall, Inc., Cambridge, Mass.
Main, Inc., Chas. T., Boston, Mass.
Precher & Co., Inc., G. Lloyd, Atlanta.
Sanderson & Porter, New York, N. Y.
Scodfield Engineering Co., Philadelphia.
Sitrine & Co., J. E., Greenville, S. C.
Smith, Elroy G., Augusta, Ga.
Turner, C. A. P., Minneapolis, Minn.
United Engineers & Constructors, Phila.
Wiley & Wilson, Lynchburg, Va.

—(Industrial Survey.)

Converse & Co., J. B., Mobile, Ala.
Lockwood Greene Engrs., Inc., New York.
Wadleigh & Bailey, Washington, D. C.

—(Inspection and Tests.)

Barrow-Agee Laboratories, Memphis, Tenn.
Conard, William E., Burlington, N. J.
Cramer, Robert, Milwaukee, Wis.
Dow & Smith, New York, N. Y.
Froehling & Robertson, Inc., Richmond, Va.
Hunt Co., Robert W., Chicago, Ill.
Moss, Jr., W. Wade, Columbus, Ga.
Picard Laboratories, Birmingham, Ala.
Pittsburgh Testing Laboratories, Pittsburgh, Pa.
Southwestern Laboratories, Ft. Worth, Tex.

—(Lighting.)

Byllesby Engineering & Management Corp., Chicago, Ill.
Westinghouse Lamp Co., New York City
Wiley & Wilson, Lynchburg, Va.

—(Mechanical.)

Charlton & Davis, Ft. Lauderdale, Fla.
Engineering Service Corp., Houston, Tex.
Lee, William S., Charlotte, N. C.
Lockwood Greene Engrs., Inc., New York.
Main, Inc., Chas. T., Boston, Mass.
Meigs, Bassett & Slaughter, Phila., Pa.
Sanderson & Porter, New York, N. Y.
Wiley & Wilson, Lynchburg, Va.

—(Mining. See Engineers, Geological.)

—(Municipal.)

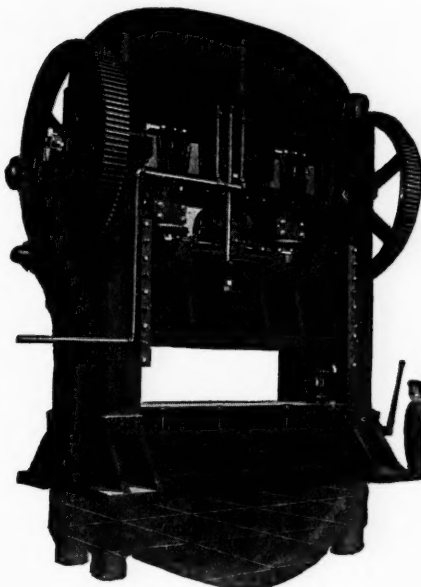
Consoer, Older & Quinlan, Inc., Chicago
Dow & Smith, New York, N. Y.
Harrah Engr. Co., C. N., Nashville, Tenn.
Hills & Youngberg, Jacksonville, Fla.
Huey, S. E., Monroe, La.
Knowles, Inc., Morris, Pittsburgh, Pa.
McCrary Co., The, J. B., Atlanta, Ga.
White Co., Gilbert C., Durham, N. C.
Wiley & Wilson, Lynchburg, Va.

—(Paving and Roads.)

Dow & Smith, New York, N. Y.
Freeland, Roberts & Co., Nashville, Tenn.

BLISS

The standard machinery
for sheet metal operations



Double Crank Presses

Manufacturers of a wide range of sheet metal goods, such as automobile parts, stoves, ranges, shingles, tractor parts, sidings for buildings, freight and passenger car parts, metal radiators, metal furniture, etc., have found that the Bliss Double Crank Press assures rapid, uninterrupted, and highly economical production, in many cases effecting surprising economies. This type of press is adapted to every sheet metal forming and stamping requirement and is but one of the large Bliss line of presses built for every kind of sheet metal operation.

It will pay you to become acquainted with the entire Bliss line. Write for full data on types suited to your individual requirements.

"Bliss" on your machinery is more
than a name—it's a guarantee.

BLISS for MACHINERY

E. W. BLISS CO., BROOKLYN, N. Y., U. S. A.

Factories: Brooklyn, N. Y. Hastings, Mich. Salem, Ohio

Sales Offices: Detroit Cleveland Chicago Boston Philadelphia

Cincinnati New Haven Rochester

Foreign Factories and Offices: London, Eng. Turin, Italy Paris, France

Actinic Glass

for Textile Mills

Manufactured by
**PENNSYLVANIA
WIRE GLASS CO.**

Will materially reduce
radiant heat from
direct sunlight

Distributed by
**HIRES TURNER
GLASS COMPANY**
PHILADELPHIA, PENNA.

Rochester Washington Albany
Baltimore

or through any glass jobber

No. 3

Harrub Engr. Co., C. N., Nashville, Tenn.
White Co., Gilbert C., Durham, N. C.

—(Printing and Newspaper
Plants.)

Lockwood Greene Engrs., Inc., New York.

—(Production.)

Scotfield Engineering Co., Philadelphia.

—(Public Service Properties.)

Barstow & Co., W. S., New York City.
Bylesby Engineering & Management
Corp., Chicago, Ill.
Knowles, Inc., Morris, Pittsburgh, Pa.
Main, Inc., Chas. T., Boston, Mass.
Sanderson & Porter, New York, N. Y.
Scotfield Engineering Co., Philadelphia.
White Engineering Corp., J. G., New York.

—(Railroad.)

Huey, S. E., Monroe, La.

—(Reinforced Concrete Bridges,
Buildings, etc.)

Freeland, Roberts & Co., Nashville, Tenn.
Gardner & Hows, Memphis, Tenn.
Greiner & Co., J. E., Baltimore, Md.
Lockwood Greene Engrs., Inc., New York.
Main, Inc., Chas. T., Boston, Mass.
Steel & Lobb, Knoxville, Tenn.
Tucker & Lorton, Charlotte, N. C.
Turner, C. A. P., Minneapolis, Minn.
Wheeler, Walter H., Minneapolis, Minn.

—(Sales Analysis.)

May, Inc., Geo. S., Chicago, Ill.

—(Sanitary.)

Cramer, Robert, Milwaukee, Wis.
Hars Engineering Co., Chicago.
Whitman, Requaert & Smith, Balto., Md.
Wiley & Wilson, Lynchburg, Va.

—(Sewage Disposal Plants.)

Cramer, Robert, Milwaukee, Wis.
McCrary Co., The, J. B., Atlanta, Ga.
Whitman, Requaert & Smith, Balto., Md.
Wiedeman and Singleton, Inc., Atlanta.
Wiley & Wilson, Lynchburg, Va.

—(Sewerage and Waterworks.)

Conard, William E., Burlington, N. J.
Conner, Older & Quinlan, Inc., Chicago.
Hardaway Contracting Co., Columbus, Ga.
Harrub Engr. Co., C. N., Nashville, Tenn.
Hills & Youngberg, Jacksonville, Fla.
Knowles, Inc., Morris, Pittsburgh, Pa.
Sanderson & Porter, New York, N. Y.
Tucker & Lorton, Charlotte, N. C.
White Co., Gilbert C., Durham, N. C.
White Engineering Corp., J. G., New York.
Whitman, Requaert & Smith, Balto., Md.
Wiedeman & Singleton, Inc., Atlanta, Ga.
Wiley & Wilson, Lynchburg, Va.

—(Structural.)

Freeland, Roberts & Co., Nashville, Tenn.
Hedrick, Inc., Ira G., Hot Springs Nat'l
Park, Ark.
Hills & Youngberg, Jacksonville, Fla.
Huey, S. E., Monroe, La.
Lockwood Greene Engrs., Inc., New York.
Southern Erectors, Inc., Tampa, Fla.
Turner, C. A. P., Minneapolis, Minn.
United Engineers & Constructors, Phila.
Virginia Bridge & Iron Co., Roanoke, Va.
Whitman, Requaert & Smith, Balto., Md.

—(Textile Mills.)

Lockwood Greene Engrs., Inc., New York.
Main, Inc., Chas. T., Boston, Mass.
Serrins & Co., J. E., Greenville, S. C.

—(Transmission Lines.)

Hosier Engineering Co., Chicago, Ill.

—(Ventilating and Heating.)

Wiley & Wilson, Lynchburg, Va.

—(Water Supply.)

Whitman, Requaert & Smith, Balto., Md.
Wiley & Wilson, Lynchburg, Va.

—(Engines (Compressed Air.)

Dake Engine Co., Grand Haven, Mich.

—(Diesel Type.)

Fairbanks, Morse & Co., Chicago, Ill.

—(Gas and Gasoline.)

Sterling Engine Co., Buffalo, N. Y.

—(Marine.)

Fairbanks, Morse & Co., Chicago, Ill.

—(Oil.)

Continental Oil Co., Birmingham, Ala.

—(Steam.)

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Lombard Iron Works & Supply Co., Au-
gusta, Ga.
Schaeffeld's Sons Co., J. S., Macon, Ga.

ENVELOPES.

Young & Selden Co., Baltimore, Md.

ESTIMATORS (Building & Con-
struction.)

Martin, Joe B., Charlotte, N. C.

EXCAVATING MACHINERY.

Bay City Shovel, Inc., Bay City, Mich.
Bucyrus-Erie Co., So. Milwaukee, Wis.
Harnischfeger Corp., Milwaukee, Wis.
Industrial Brownhoist Corp., Cleveland.
National Equipment Corp. (Kochring,
Insley, Parsons), Milwaukee, Wis.
Northwest Engineering Co., Chicago, Ill.
Owen Bucket Co., The, Cleveland, Ohio.
Thew Shovel Co., The, Lorain, Ohio.

EXCAVATORS (Clamshell and
Orange Peel.)

Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.
Thew Shovel Co., Lorain, Ohio.

—(Dragline. See Dragline Ex-
cavators.)

—(Trench.)

Barber-Greene Co., Aurora, Ill.
Bay City Shovel, Inc., Bay City, Mich.
Bucyrus-Erie Co., So. Milwaukee, Wis.
Harnischfeger Corp., Milwaukee, Wis.
Ohio Power Shovel Co., Lima, Ohio.

EXPANSION JOINTS (Road
and Street.)

Carey Co., Philip, Lockland, Cincinnati,
Ohio.

EXPLOSIVES.

Du Pont de Nemours & Co., Inc., E. I.,
Wilmington, Del.

FACTORY Management Systems.
Ernst & Ernst, New York, N. Y.

FRED-WATER HEATERS and
Purifiers.

American Water Softener Co., Phila., Pa.
International Filter Co., Chicago, Ill.

FENCE POSTS (Crossed.)

American Crosscutting Co., Louisville, Ky.
Ayer & Lord Tie Co., Chicago, Ill.

FENCING Entrance Gates (Iron,
Steel and Wire.)

American Steel and Wire Co., Balto., Md.
Cyclone Fence Co., Waukegan, Ill.
Gulf States Steel Co., Birmingham, Ala.

—(Field and Industrial, Wire
Woven.)

American Steel and Wire Co., Balto., Md.
Cyclone Fence Co., Waukegan, Ill.
Gulf States Steel Co., Birmingham, Ala.

FILTER (For Domestic and
Industrial Purposes.)

American Water Softener Co., Phila., Pa.
Barharach & Co., E. W., Kansas City,
Mo.
International Filter Co., Chicago, Ill.
Roberts Filter Mfg. Co., Darby (Phila.), Pa.

—Cloth.

Newark Wire Cloth Co., Newark, N. J.

FINANCING.

Electric Bond & Share Co., New York.
Gay & Co., W. O., New York, N. Y.

FIREPROOF Building Material.

Bannon Pipe Co., Louisville, Ky.

—Doors and Shutters.

Wilson Corp., The J. G., New York City.

FITTINGS (Wire Rope.)American Steel & Wire Co., Chicago, Ill.
Roebbing's Sons Co., John A., Trenton, N. J.**FLANGES (Iron and Steel.)**Amer. Cast Iron Pipe Co., Birmingham.
Dart Mfg. Co., E. M., Providence, R. I.
National Cast Iron Pipe Co., Birmingham, Ala.
Taylor Forge & Pipe Wks., Chicago, Ill.
U. S. Pipe & Foundry Co., Burlington, N. J.**—(Swivel.)**

Merco Nordstrom Valve Company, San Francisco, Cal.

FLOOR (Asphalt Mastic.)

Barber Asphalt Co., Philadelphia, Pa.

—(Cork Composition.)

Congoleum-Nairn, Inc., Kearny, N. J.

—(Hardwood, Maple, Oak.)

Kirby Lumber Co., Houston, Tex.

—(Linoleum.)

Congoleum-Nairn, Inc., Kearny, N. J.

—(Northern Hard Maple.)

Holt Hardwood Co., Oconto, Wis.

—(Open Steel.)Blaw-Knox Co., Pittsburgh, Pa.
Irving Iron Works Co., Long Is. City, N. Y.
Kerlow Steel Flooring Co., Jersey City, N. J.**—Covering.**

Congoleum-Nairn, Inc., Kearny, N. J.

—Hardner (Concrete.)

Sommerborn Sons, Inc., L., New York.

—Plates and Stair Treads.

Central Iron & Steel Co., Harrisburg, Pa.

—Wax.

Congoleum-Nairn, Inc., Kearny, N. J.

FLUMES.

Alco Products, Inc., New York, N. Y.

FLUSH-TANK SIPHONS.

Pacific Flush-Tank Co., New York, N. Y.

FORMED PRODUCTS (Roofing.)

American Rolling Mill Co., Middletown.

FORMS, Steel (For Concrete)Culverts, Roads, Streets, Curbs, Sidewalks, Tiles.)
Blaw-Knox Co., Pittsburgh, Pa.**FOUNDRIES and Machine Shops.**General Machine Works, York, Pa.
Glasgow Pipe & Fdry. Co., Lynchburg, Va.

Goldens' Fdry. & Mch. Co., Columbus, Ga.

Lombard Iron Works & Supply Co., Augusta, Ga.

Mountain State Steel Foundries, Parkersburg, W. Va.

Richmond Foundry & Mfg. Co., Richmond, Va.

Savannah Machine & Fdry. Co., Savannah.

FOUNDRY Equipment and Supplies.

Hill & Griffith Co., Cincinnati, O.

—Facings (Tale and Soapstone.)

Hill & Griffith Co., Cincinnati, O.

FURNACES (Industrial.)

Combustion Engr. Corp., New York City.

—(Water-Cooled.)Combustion Engr. Corp., New York City.
Fuller Lehigh Co., Fullerton, Pa.**GALVANIZED Products.**

Bessemer Galvanizing Works, Birmingham, Ala.

Birmingham Galvanizing Co., Birmingham, Ala.

Cattle & Bros., Jos. P., Philadelphia, Pa.

—Steel and Iron.American Rolling Mill Co., Middletown, O.
American Sheet & Tin Plate Co., Pittsburgh, Pa.
Granite City Steel Co., Granite City, Ill.**GALVANIZING (Cadmium Plating.)**

Birmingham Galvanizing Co., Birmingham, Ala.

—(Hot Dip.)Bessemer Galvanizing Works, Birmingham.
Birmingham Galvanizing Co., Birmingham, Ala.
Cattle & Bros., Jos. P., Philadelphia, Pa.
Newport News Shipbuilding & Dry Dock Co., Newport News, Va.**GAS HOLDERS.**Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago Bridge & Iron Wks., Birmingham.**—Producers.**

Wood & Co., E. D., Philadelphia, Pa.

GASOLINE and KEROSENE.

Gulf Refining Co., Pittsburgh, Pa.

GASOLINE SHOVELS (See Shovels.)**GATES.**

Newport News Shipbuilding & Dry Dock Co., Newport News, Va.

GEARS.DeLaval Steam Turbine Co., Trenton, N. J.
Earle Gear & Machine Co., Phila., Pa.
General Electric Co., Schenectady, N. Y.**—(Worm Reduction.)**

DeLaval Steam Turbine Co., Trenton, N. J.

GENERATORS, MOTORS (New.)General Electric Co., Schenectady, N. Y.
Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.**—(Used.)**O'Brien Machinery Co., Phila., Pa.
Randle Machinery Co., The, Cincinnati, O.**GEOLOGISTS. (See Engineers, Geological.)****GLASS (Art.)**

Hires Turner Glass Co., Philadelphia, Pa.

—(Plate.)Hires Turner Glass Co., Philadelphia, Pa.
Southwestern Sheet Glass Co., Okmulgee, Okla.**—(Window.)**Hires Turner Glass Co., Philadelphia, Pa.
Pittsburgh Plate Glass Co., Pittsburgh.
Southwestern Sheet Glass Co., Okmulgee, Okla.**—(Wire.)**Hires Turner Glass Co., Philadelphia, Pa.
Southwestern Sheet Glass Co., Okmulgee, Okla.**GRADERS (Elevating.)**Adams Co., J. D., Indianapolis, Ind.
Caterpillar Tractor Co., Peoria, Ill.**—(One Man Motor.)**

Adams Co., J. D., Indianapolis, Ind.

—(Leaning Wheel Road.)

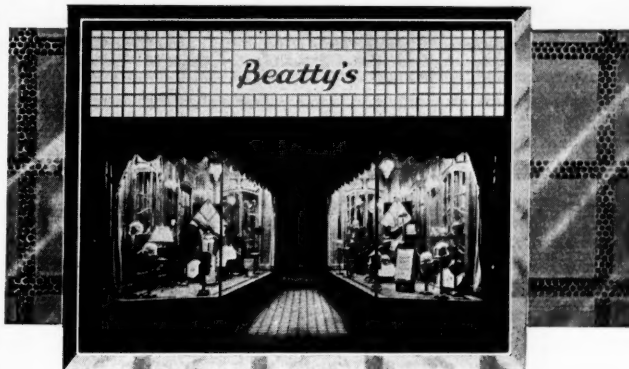
Adams Co., J. D., Indianapolis, Ind.

GRAPHITE.

Dixon Crucible Co., Jos., Jersey City, N. J.

GRATES and Grate Bars.

Schmidt's Sons Co., J. S., Macon, Ga.

DEW BAR**Adds to Beauty
-- At A Saving!**

THE prime purpose of a new store front is for appearance and to attract attention.

The only acceptable glass for the windows is Polished Plate Glass and it should be set in copper or bronze.

What should be used for the transoms above the plate glass setting? Window Glass will do but adds nothing to the appearance. Figured glasses are stronger but none are comparable with DEW-BAR for it gives the maximum in attractiveness, durability and light diffusion and at much less cost than glass set in metal.

You can have your name etched in DEW-BAR at a slight additional cost, adding individuality to your store front. Ventilators can also be added.

Write us for the name of Glass Distributors in your vicinity handling genuine DEW-BAR.

**SOUTHWESTERN
SHEET GLASS CO.
OKMULGEE,
OKLAHOMA**

EARLE

Cut Spur, Bevel, Herringbone,
and Worm Gears

All sizes. Every description. Oper-
ating Machinery for Bridges, etc.
"Lee Simpler" Cold Metal Saws.

The Earle Gear & Machine Co.

4719 Stanton Avenue,
Philadelphia, Pa.

110 State St., Boston, Mass.
95 Liberty St., New York City

GEARS

GUNITE METHOD

Specialists in
CEMENT GUN CONSTRUCTION

Contracts Executed Anywhere
GUNITE CONCRETE AND CONSTRUCTION CO.
BARCLAY A. GREENE, President

1301 Woodswether Road, Kansas City, Mo.

BRANCH OFFICES: St. Louis, Mo.; Chicago, Ill.; Birmingham, Ala.;
Dallas, Tex.; La Feria, Tex.; New Orleans, La.; Atlanta, Ga.



GUNITE

THE
RUST ENGINEERING CO.

Engineers and Contractors on all kinds of
Cement-Gun Work
BIRMINGHAM, ALABAMA

Chicago New York Pittsburgh Washington

SPECIFY

KERLOW

STEEL

Square and Triangular Mesh
FLOOR GRATINGS AND STAIR STEPS

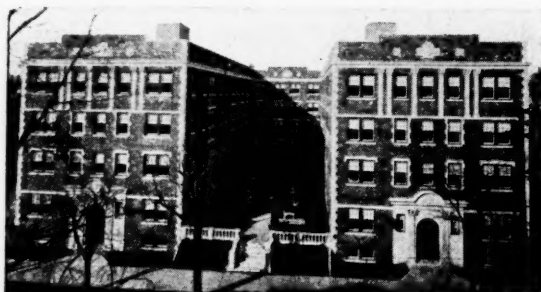
The strongest and lightest
BRIDGE AND FLOOR SLABS (Monolithic)

Catalogue and Prices on request

KERLOW STEEL FLOORING COMPANY

222-228 Culver Ave., Jersey City, N. J.

See Telephone book for representatives



It's Easy to Rent Soundproofed Apartments

Gainesborough Hall at 41st and Baltimore Ave.,
Philadelphia, is soundproofed with Cabot's Double
Ply Quilt in all partitions and halls. Samuel C.
Silverman, Inc., Builders, know how much easier
it is to rent quiet apartments. The Quilt should
quickly save its cost in higher rents and occupancy.

When you build apartments, soundproof with

Cabot's Quilt

MAIL US THE COUPON BELOW FOR FULL INFORMATION

Send left

141 Milk Street, Boston, Mass.

Gentlemen: Please send me full information on CABOT'S QUILT.

Name _____

Address _____ MR 6-31

GRATING (Area, Flooring, Side-

walk.)
Blaw-Knox Co., Pittsburgh, Pa.
Hendrick Mfg. Co., Carbondale, Pa.
Irving Iron Works, Long Is. City, N. Y.
Kerlow Steel Flooring Co., Jersey City, N. J.

GRAVEL (Roofing and Road.)

American Limestone Co., Knoxville, Tenn.
Arundel Corp., The, Baltimore, Md.
Boxley & Co., W. W., Roanoke, Va.
Friend & Co., Inc., Petersburg, Va.
Georgia Sand & Gravel Co., Augusta, Ga.

GREASE CUPS.

Lunkenheimer Co., The, Cincinnati, O.

GRILLES (Brass, Bronze, Steel,

etc.)
Manhattan Perforated Metal Co., Inc.,
Long Island City, N. Y.

GRINDERS Wheels.

Carborundum Co., Niagara Falls, N. Y.

GUARD RAIL (Road.)

National Traffic Guard Co., Atlanta.

GUNITE CONSTRUCTION

Cement-Gun Co., Inc., Allentown, Pa.
Cement Gun Construction Co., Chicago.
Gunite Conc. & Constr. Co., Kansas City.
Gunite Constr. Co., New York City.
Rust Engineering Co., Birmingham, Ala.

GUNPOWDER.

Du Pont de Nemours & Co., Inc., E. I.,
Wilmington, Del.

GUNS (Hydraulic.)

Georgia Iron Works, Augusta, Ga.

HANGARS (Airplane.)

Blaw-Knox Co., Pittsburgh, Pa.
Ingalls Iron Works, Birmingham, Ala.

HARBOR IMPROVEMENTS.

Arundel Corp., Baltimore, Md.
Atlantic, Gulf & Pacific Co., New York.

HEATERS (Asphalt.)

Honhorst Co., Jos., Cincinnati, O.

HEAT EXCHANGERS.

Alco Products, Inc., New York, N. Y.

HEATING Apparatus (Engineers

and Contractors.)
Poe Piping & Heating Co., Greenville, S. C.

HOISTS (Chain.)

Wright Mfg. Co., Bridgeport, Conn.

—(Electric.)

Harnischfeger Corp., Milwaukee, Wis.
Street Bros. Mch. Wks., Chattanooga, Tenn.

—(Gasoline.)

Dake Engine Co., Grand Haven, Mich.
National Equipment Corp. (C. H. & E.
Division), Milwaukee, Wis.
Street Bros. Mch. Wks., Chattanooga, Tenn.

—(Steam.)

Dake Engine Co., Grand Haven, Mich.
Street Bros. Mch. Wks., Chattanooga, Tenn.

HOOPS, Bands, etc. (Galvanized.)

Connors Steel Co., Birmingham, Ala.

HOPPERS (Aggregate, Measur-

ing and Weighing.)
Blaw-Knox Co., Pittsburgh, Pa.
Butler Bin Co., Waukesha, Wis.

HOTELS.

Heiss Hotel Systems, St. Louis, Mo.
Southern Hotel, The, Baltimore, Md.

HOUSE MOVING.

Eichleay, Jr., Co., John, Pittsburgh.

HUMIDIFYING AND DRYING

EQUIPMENT.
Niagara Blower Co., New York, N. Y.

HYDRANTS (Fire.)

Ludlow Valve Mfg. Co., The, Troy, N. Y.
Myers & Bro. Co., The, F. E., Ashland, O.
Wood & Co., E. D., Philadelphia, Pa.

HYDRO - ELECTRIC POWER

COMPANIES (Offering Indus-
trial and Commercial Oppor-
tunities.)

Alabama Power Co., Birmingham, Ala.
Crisp County Power Commission, Cor-
doba, Ga.
Georgia Power Co., Atlanta, Ga.
Texas Power & Light Co., Dallas, Texas.

INCINERATORS

Goder, Joseph, Chicago, Ill.

INCORPORATORS.

Delaware Registration Trust Co., Wil-
mington, Del.

INSULATING BOARD.

Armstrong Cork & Insulation Co., Lan-
caster, Pa.
United Cork Companies, Lyndhurst, N. J.

—Materials.

General Electric Co., Schenectady, N. Y.

—Quilt.

Cabot, Inc., Samuel, Boston, Mass.

INVESTMENT SECURITIES.

Electric Bond & Share Co., New York.
Gay & Co., W. O., New York City.
Hanchett Bond Co., Inc., The, Chicago, Ill.
Nuveen & Co., John, Chicago.
Provident Savings Bank & Trust Co.,
Cincinnati, Ohio.
Whiting & Co., Inc., P. H., New York City.

IRON.

Oliver Iron & Steel Corp., Pittsburgh, Pa.
Tennessee Coal, Iron & Railroad Co., Bir-
mingham, Ala.

—(Ingot, For Culverts, etc.)

American Rolling Mill Co., Middletown, O.

JAIL CELLS

Roanoke Iron & Bridge Wks., Roanoke, Va.

JOINTS (Pipe.)

Leadite Co., Philadelphia, Pa.

KETTLES (Pavers and Roofers.)

Honhorst Co., Jos., Cincinnati, O.

KILNS (Cement.)

Alco Products, Inc., New York, N. Y.

—(Drying Lumber.)

Moore Dry Kiln Co., Jacksonville, Fla.

LADDERS (Rolling.)

Myers & Bro. Co., The, F. E., Ashland, O.

LANDSCAPE GARDENERS.

Howard-Hickory Co., Hickory, N. C.

LAMPS (Incandescent.)

Western Electric Co., New York City
Westinghouse Lamp Co., New York City

LATHES.

Sebastian Lath Co., Cincinnati, O.

LIGHTING (Factory and Mill.)

Westinghouse Lamp Co., New York City

—Fixtures (Electric.)

Western Electric Co., New York City
Westinghouse Lamp Co., New York City

LIGHTS (Contractors.)

Toledo Pressed Steel Co., Toledo, Ohio.

LININGS (Fire, Fire Clay.)

Lee Clay Products Co., Clearfield, Ky.
Owensboro Sewer Pipe Co., Owensboro, Ky.

—(Tube Mill.)

Fuller Lehigh Co., Fullerton, Pa.

LINOLEUM (Battleship, Embossed Inlaid, Inlaid, Jasper.)
Congoleum-Natra, Inc., Kearny, N. J.

LITHOGRAPHERS and ENGRAVERS.
Smith & Son Co., Oscar T., Baltimore, Md.
Young & Selden Co., Baltimore, Md.

LOADING and UNLOADING MACHINERY (Portable.)
Barber-Greene Co., Aurora, Ill.
Northwest Engineering Co., Chicago, Ill.

LOCOMOTIVES (Compressed Air.)
Porter Co., H. K., Pittsburgh, Pa.

—(Fireless Stored Steam.)
Porter Co., H. K., Pittsburgh, Pa.

—(Gasoline.)
Porter Co., H. K., Pittsburgh, Pa.

—(Industrial.)
Porter Co., H. K., Pittsburgh, Pa.
Southern Iron & Equipment Co., Atlanta.

—(Mining.)
Porter Co., H. K., Pittsburgh, Pa.

—(Railway.)
Porter Co., H. K., Pittsburgh, Pa.
Southern Iron & Equipment Co., Atlanta.

LUBRICANTS.
Dixon Crucible Co., Jos., Jersey City, N. J.
Gulf Refining Co., Pittsburgh, Pa.

LUBRICATORS (Force Feed.)
Lunkenheimer Co., The, Cincinnati, O.

LUMBER (Ceiling, Flooring, Siding.)
Jackson Lumber Co., Lockhart, Ala.
Kirby Lumber Co., Houston, Texas.

—(Creosoted.)
Amer. Creosote Wks., Inc., New Orleans.
Amer. Creosoting Co., Inc., Louisville, Ky.
Atlantic Creosoting Co., Norfolk, Va.
Ayer & Lord Tie Co., Inc., Chicago.
Eppinger & Russell Co., New York, N. Y.
Gulf States Creos. Co., Hattiesburg, Miss.

—Hardwoods, Cypress, etc.)
Reynolds Bros. Lbr. Co., Albany, Ga.

—(Heavy Construction, Pitch, Pine, etc.)
Kirby Lumber Co., Houston, Texas.
Reynolds Bros. Lbr. Co., Albany, Ga.

—(Zinc Meta Arsenite Treated.)
Curtin-Howe Corp., New York City.

MACHINERY (Special.)
Bliss Co., E. W., Brooklyn, N. Y.
Earle Gear & Machine Co., Phila., Pa.
General Machine Works, York, Pa.
Gerding Bros., Cincinnati, Ohio.

—and Supplies (New and Used.)
Adams Mch. Co., T. G., Savannah, Ga.
Electric Service Co., Cincinnati, Ohio.
Marine Metal & Supply Co., New York.
O'Brien Machinery Co., The, Phila., Pa.
Randle Machinery Co., The, Cincinnati, O.
Zelnicker Supply Co., W. A., St. Louis.

MACHINE TOOLS
Ryerson & Son, Inc., Jos. T., St. Louis and New York.
Sebastian Lathe Co., Cincinnati, Ohio.

—(Used.)
Delta Equipment Co., Philadelphia, Pa.
O'Brien Machinery Co., Philadelphia, Pa.

MAIL CHUTES.
Cutler Mail Chute Co., Rochester, N. Y.

MAINTAINERS (Road.)
Adams Co., J. D., Indianapolis, Ind.

MARBLE (Producers and Manufacturers.)
Georgia Marble Co., The, Tate, Ga.

MATERIAL ELEVATORS.
National Equipment Corp. (Insley, C. E., & E.), Milwaukee, Wis.

METAL-Cutting Machinery.
Earle Gear & Machine Co., Phila., Pa.

—Working Machinery.
Bliss Co., E. W., Brooklyn, N. Y.
Ryerson & Son, Inc., Jos. T., St. Louis and New York.

MILL MACHINERY and SUPPLIES.
Lombard Iron Works & Supply Co., Augusta, Ga.

MIXERS.
National Equipment Corp. (Koehring, T. L. Smith, Kwik-Mix), Milwaukee, Wis.

—(Asphalt.)
Erie Machine Shops, Erie, Pa.

—(Hot.)
Koehring Co., Milwaukee, Wis.

—(Mortar.)
Chain Belt Co., Milwaukee, Wis.
Jaeger Machine Co., Columbus, Ohio.

—(Plaster.)
Blystone Mfg. Co., Cambridge Springs, Pa.
Chain Belt Co., Milwaukee, Wis.
Dunning & Boschert Press Co., Syracuse, N. Y.
Jaeger Machine Co., Columbus, Ohio.

MOTORS (Electric.)
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Fairbanks, Morse & Co., Chicago, Ill.
General Electric Co., Schenectady, N. Y.
Western Electric Co., New York City.
Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.

MOTOR TRUCKS.
International Harvester Co. of America, Inc., Chicago, Ill.

NAILS (Cut.)
Reading Iron Co., Reading, Pa.

—and Spikes.
American Steel & Wire Co., Balto., Md.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.
Youngstown Sheet & Tube Co., Youngstown, Ohio.

NATURAL GAS COMPANIES.
(Offering Industrial and Commercial Opportunities.)
Southern Natural Gas Corp., Birmingham.

NURSERYMEN
Howard-Hickory Co., Hickory, N. C.

NUTS (Cold Punched.)
Oliver Iron & Steel Corp., Pittsburgh, Pa.
Russell, Burdall & Ward Bolt & Nut Co., Port Chester, N. Y.

OIL (Fuel and Gas.)
Gulf Refining Co., Pittsburgh, Pa.

—Oups.
Lunkenheimer Co., The, Cincinnati, O.

ORE-WASHING MACHINERY.
Georgia Iron Works, Augusta, Ga.

ORNAMENTAL BRONZE WORK.
Heath Co., J. S., Waukegan, Ill.
Michaels Art Bronze Co., Covington, Ky.

—Iron Work.
Roanoke Iron & Bridge Wks., Roanoke, Va.
Snead Architectural Iron Works, Louisville, Ky.
Southern Engineering Co., Charlotte, N. C.

PACKING (Asbestos, Metallic, Rubber, Leather, etc.)
Palmer Asbestos & Rubber Corp., Chicago.

PAINT (Metal Surfaces.)
Dixon Crucible Co., Jos., Jersey City, N. J.

—(Mill White, For Interior.)
Sonneborn Sons, Inc., L., New York.

—(Preservative.)
Cabot, Inc., Samuel, Boston, Mass.

PANELBOARDS.
Adam Electric Co., Frank, St. Louis.

PARTITIONS (Sectionfold, Rolling, Wood.)
Wilson Corp., The, J. G., New York

MATHEWS

MODERNIZED


HYDRANT

Reg. U. S. Patent Office

Operating Nut protected from rain, snow or dirt... completely revolving head... broken hydrant cannot leak and easily replaced without digging or breaking pavement.

B. WOOD & CO.

PHILADELPHIA, PA. FOUNDED 1803



"The whole works out in a jiffy."

GOLD SEAL LATHES



20x10 Lathe
\$950.00 F. O. B.
Cincinnati

All types
12 to 20 inch swing

The Sebastian Lathe Company, 2964 Culvert St. Cincinnati, Ohio

Creosoted Ties, Piling, Poles and Timbers

Creosote Oil

Docks for Ocean Vessels

American Creosote Works, Inc.

New Orleans, La.

Atlantic Creosoting Co., Inc.

Savannah, Ga.

Norfolk, Va.

Gulf States Creosoting Co.

PLANTS AT

HATTIESBURG, MISS., MERIDIAN, MISS., JACKSON, MISS.,
SLIDELL, LA., BRUNSWICK, GA., BIRMINGHAM, ALA.

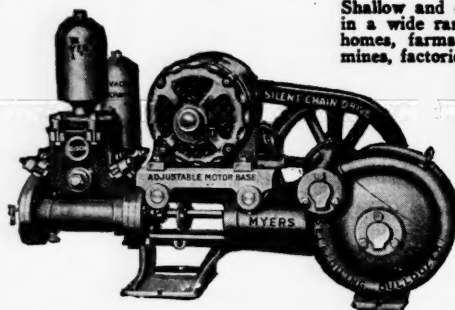
Main Office: HATTIESBURG, MISS.

CREOSOTED MATERIAL

INCLUDING

Lumber, Timbers, Piles, Telephone and
Telegraph Poles and Cross-Arms,
Cross-Ties, Etc.

We also treat with Zinc Meta-Arsenite (colorless)

MYERS SELF-OILING POWER PUMPS

Shallow and deep well types in a wide range of sizes for homes, farms, estates, mills, mines, factories and innumerable other places. Recent improvements simplify installation and maintenance and give them greater sales and service values than ever before.

Write or Wire.

THE F. E. MYERS & BRO. CO., Ashland, O.
PUMPS—WATER SYSTEMS—HAY TOOLS—DOOR HANGERS

MANISTEE CENTRIFUGAL PUMPS

Condensers—Chemical Evaporators—Gate Valves—Hydrants
MANISTEE IRON WORKS CO.
156 Turner Ave., MANISTEE, MICHIGAN

SAND PUMPS

A wide range of types in sizes 4" to 15"

For belt drive and for direct connection to motor

Illustrated booklet on request

GEORGIA IRON WORKS
AUGUSTA, GA.

GLAMORGAN PIPE & FOUNDRY CO.

GENERAL FOUNDERS AND MACHINISTS
LYNCHBURG, VA.

SALT GLAZED SEWER AND CULVERT PIPE

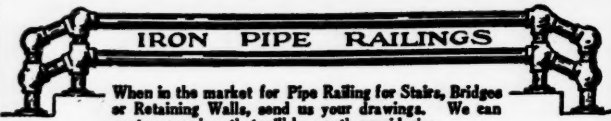
Wall Coping, Drain Tile, Flue Lining, Chimney Tops, Hollow Tile, Fire Proofing, Vitrified Brick, Fire Brick

BANNON'S PATENT LIDDED PIPE FOR STEAM CONDUITS

BANNON PIPE CO. LOUISVILLE, KY.

CAST IRON PIPE AND FITTINGS

American Cast Iron Pipe Company
Birmingham, Ala.
SALES OFFICES IN PRINCIPAL CITIES



PIPE RAILING CONSTRUCTION CO., Long Island City, New York

PATENT ATTORNEYS.

Buck, Sterling F., Washington, D. C.
Coleman, Watson E., Washington, D. C.
Eaton, Paul B., Charlotte, N. C.
Sassett, Edward C., Washington, D. C.
Seymour & Bright, Washington, D. C.

PATTERNS (Drawing, etc.)

Hass Pattern Co., A. W., Atlanta, Ga.

PAVING Blocks (Creosoted Wood.)

American Creosote Works, New Orleans.

(Brick.)

National Paving Brick Mfrs. Assn., Washington, D. C.

(Mixers.)

National Equipment Corp. (Kochring, W. L. Smith), Milwaukee, Wis.

(Plant (Asphalt.)

Simplicity System Co., Chattanooga, Tenn.

PENSTOCKS.

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago Bridge & Iron Wks., Birmingham.
Newport News Shipbuilding & Dry Dock Co., Newport News, Va.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Smith Co., S. Morgan, York, Pa.

PERFORATED METAL.

Chicago Perforating Co., Chicago, Ill.
Erdle Perforating Co., Rochester, N. Y.
Harrington & King Perf. Co., Chicago.
Hendrick Mfg. Co., Carbondale, Pa.
Manhattan Perforated Metal Co., Inc., Long Island City, N. Y.
Mandit & Sons, Charles, Jersey City, N. J.

PETROLEUM REFINERS.

Gulf Refining Co., Pittsburgh, Pa.

PHOSPHATE ACID.

Davison Chemical Co., Baltimore, Md.

PIG-IRON.

Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

PILING (Creosoted.)

Amer. Creosote Wks., Inc., New Orleans.
Amer. Creosoting Co., Inc., Louisville.
Atlantic Creosoting Co., Norfolk, Va.
Ayer & Lord Tie Co., Inc., Chicago.

(Steel Sheet.)

Carnegie Steel Co., Pittsburgh, Pa.
Hymen-Michaels Co., Chicago, Ill.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
Zehlecker Supply Co., W. A., St. Louis.

(Yellow Pine.)

Jackson Lumber Co., Lookhart, Ala.

PILLOW BLOCKS.

Gelders' Fdry. & Mch. Co., Columbus, Ga.

PIPE.

Albert & Davidson Pipe Corp., Brooklyn, N. Y.
Albert Pipe Sup. Co., Inc., Brooklyn, N. Y.
Birmingham Boiler & Engr. Co., Birmingham, Ala.
Central Pipe & Supply Co., Charleston, W. Va.
Greenpoint Iron & Pipe Co., Inc., Brooklyn, N. Y.
Greenspon's Sons Iron & Steel Co., St. Louis, Mo.
Hudson Pipe & Supply Co., Bayonne, N. J.
Maryland Pipe & Steel Corp., Baltimore, Md.
National Tube Co., Pittsburgh, Pa.
Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.
Power Piping Co., Pittsburgh, Pa.

(Cast Iron.)

Amer. Cast Iron Pipe Co., Birmingham.
Cast Iron Pipe Research Assn., Chicago.
Glamorgan Pipe & Fdry. Co., Lynchburg, Va.
National Cast Iron Pipe Co., Birmingham, Ala.
U. S. Pipe & Fdry. Co., Burlington, N. J.

(Dredge.)

Lancaster Iron Works, Inc., Lancaster, Pa.

(Hammer-Welded.)

National Tube Co., Pittsburgh, Pa.

(Iron and Steel.)

American Rolling Mill Co., Middletown.

(Second-Hand.)

Albert & Davidson Pipe Corp., Brooklyn, N. Y.

Albert Pipe Sup. Co., Inc., Brooklyn, N. Y.
Central Pipe & Sup. Co., Charleston, W. Va.
Greenpoint Iron & Pipe Co., Inc., Brooklyn, N. Y.
Greenspon's Sons Iron & Steel Co., St. Louis, Mo.
Hudson Pipe & Supply Co., Bayonne, N. J.
Marine Metal & Supply Co., New York.
Maryland Pipe & Steel Corp., Baltimore, Md.

(Spiral Riveted.)

Taylor Forge & Pipe Wks., Chicago, Ill.

(Spiral Welded.)

American Rolling Mill Co., Middletown.

(Steel.)

Bethlehem Steel Co., Bethlehem, Pa.
Chicago Bridge & Iron Wks., Birmingham.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
National Tube Co., Pittsburgh, Pa.
Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.
Power Piping Co., Pittsburgh, Pa.
Youngstown Sheet & Tube Co., Youngstown, Ohio.

(Steel, Large Diameter.)

Alco Products, Inc., New York, N. Y.

(Welded.)

Welded Products Co. of La., Inc., New Orleans, La.

(Wrought Iron.)

Reading Iron Co., Reading, Pa.

Bending Machines.

American Pipe Bending Machine Co., Boston, Mass.

Covering (Cork.)

United Cork Companies, Lynhurst, N. J.

Fittings.

Amer. Cast Iron Pipe Co., Birmingham.
Georgia Iron Works, Augusta, Ga.

Machinery (Concrete.)

Quinn Wire & Iron Works, Boone, Iowa.

Unions and Joints.

Dart Mfg. Co., E. M., Providence, R. I.

Systems (Industrial.)

Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.
Power Piping Co., Pittsburgh, Pa.
Southern Automatic Sprinkler Company, Birmingham.

PLATES (Steel.)

American Rolling Mill Co., Middletown.
Bethlehem Steel Co., Bethlehem, Pa.
Carnegie Steel Co., Pittsburgh, Pa.
Central Iron & Steel Co., Harrisburg, Pa.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Granite City Steel Co., Granite City, Ill.
Gulf States Steel Co., Birmingham, Ala.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
Ryerson & Son, Inc., Jos. T., St. Louis and New York.
Tennessee Coal, Iron & Railroad Co., Birmingham.

POLES (Creosoted.)

Amer. Creosote Wks., Inc., New Orleans.
Amer. Creosoting Co., Inc., Louisville, Ky.
Atlantic Creosoting Co., Norfolk, Va.
Ayer & Lord Tie Co., Inc., Chicago.
Brown Wood Preserving Co., Louisville, Ky.

(Tubular, Steel.)

Bessemer Galvanizing Works, Birmingham, Ala.
National Tube Co., Pittsburgh, Pa.

(Yellow Pine.)

Jackson Lumber Co., Lookhart, Ala.

(Zinc Meta Arsenite Treated.)

Curtin-Howe Corp., New York City.

POLISHING MACHINERY.

(Wheels, Blocks.)
Carborundum Co., Niagara Falls, N. Y.

POSTS, (Cast Iron, Railway and Highway.)

U. S. Pipe & Foundry Co., Burlington, N. J.

POWER TRANSMISSION MACHINERY.

Diamond Chain & Mfg. Co., Indianapolis.
Gelders' Fdry. & Mch. Co., Columbus, Ga.
Scheldt's Sons Co., J. S., Macon, Ga.

PREHEATERS (Air.)

Combustion Engr. Corp., New York City.

PRESSES (Baling, Cottonseed Oil, Hydraulic and Power.)
Dunning & Boschert Press Co., Inc.,
Syracuse, N. Y.
Ripley Foundry & Machine Co., Ripley, O.

—(Metal Stamping.)
Bliss Co., E. W. Brooklyn, N. Y.

PRINTERS (Book, Catalog, Job.)
Smith & Son Co., Oscar T., Baltimore, Md.
Young & Selden Co., Baltimore, Md.

PRODUCER (Gas Machines.)
Wood & Co., E. D., Phila., Pa.

PULLEYS (Friction Clutch.)
Caldwell Co., Inc., W. E., Louisville, Ky.

—Shafting and Hangers.
Goldens' Fdy. & Mch. Co., Columbus, Ga.

PULVERIZED COAL EQUIPMENT.
Combustion Engr. Corp., New York, N. Y.
Fuller Lehigh Co., Fullerton, Pa.

PUMPING MACHINERY.
American Well Works, Aurora, Ill.
Cameron, A. S., Steam Pump Works
(Ingersoll-Rand Co.), New York City.
Fairbanks, Morse & Co., Chicago, Ill.
Myers & Bro. Co., The F. E., Ashland, O.
National Equipment Corp., (C. H. & E.
Division), Milwaukee, Wis.
Petersburg Mchry. Pump & Well Co.,
Petersburg, Va.
Virginia Mchry. & Well Co., Richmond, Va.

PUMPS (Air.)
Manistee Iron Works Co., Manistee, Mich.

—(Boiler Feed.)
Cameron, A. S., Steam Pump Works
(Ingersoll-Rand Co.), New York City.
DeLaval Steam Turbine Co., Trenton, N. J.
Erie Pump & Engine Wks., Medina, N. Y.
Manistee Iron Works Co., Manistee, Mich.
Myers & Bro. Co., The F. E., Ashland, O.

—(Centrifugal.)
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
American Well Works, Aurora, Ill.
Cameron, A. S., Steam Pump Works
(Ingersoll-Rand Co.), New York City.
DeLaval Steam Turbine Co., Trenton, N. J.
Erie Pump & Engine Wks., Medina, N. Y.
Fairbanks, Morse & Co., Chicago, Ill.
Jaeger Machine Co., Columbus, Ohio.
La Bour Co., Elkhart, Ind.
Layne & Bowler, Inc., Memphis, Tenn.
Manistee Iron Works Co., Manistee, Mich.

—(Contractors.)
Erie Pump & Engine Wks., Medina, N. Y.

—(Deep Well.)
American Well Works, Aurora, Ill.
Cook, Inc., A. D., Lawrenceburg, Ind.
Layne & Bowler, Inc., Memphis, Tenn.

—(Hydraulic.)
Dunning & Boschert Press Co., Inc.,
Syracuse, N. Y.

—(Power.)
American Well Works, Aurora, Ill.

—(Pulverized Coal.)
Fuller Lehigh Co., Fullerton, Pa.

—(Sand and Dredging.)
Erie Pump & Engine Wks., Medina, N. Y.
Georgia Iron Works, Augusta, Ga.

—(Steam.)
Cameron, A. S., Steam Pump Works
(Ingersoll-Rand Co.), New York City.
Fairbanks, Morse & Co., Chicago, Ill.

—(Water Works.)
American Well Works, Aurora, Ill.
Layne & Bowler, Inc., Memphis, Tenn.
Manistee Iron Works Co., Manistee, Mich.

PUNCHING AND SHEARING MACHINERY.
Bliss Co., E. W., Brooklyn, N. Y.
Whitney Metal Tool Co., Rockford, Ill.

RACK RAKES.
Newport News Shipbuilding & Dry Dock
Co., Newport News, Va.

RADIATOR ENCLOSURES.
Manhattan Perforated Metal Co., Inc.,
Long Island City, N. Y.

RAILINGS (Iron Pipe.)
Pipe Railing Constr. Co., Long Island
City, N. Y.

RAILROAD Equipment and Supplies (New.)
Robinson & Orr, Pittsburgh, Pa.

—Equipment and Supplies
(Used.)
Levis & Co., Henry, Philadelphia, Pa.
Smith & Co., W. M., Birmingham, Ala.
Southern Iron and Equip. Co., Atlanta.
Zelnicker Supply Co., W. A., St. Louis.

—(Frogs and Switches.)
Bethlehem Steel Co., Bethlehem, Pa.
Robinson & Orr, Pittsburgh, Pa.

RAILROADS — (Offering Industrial, Agricultural and Commercial Opportunities.)
Atlanta and West Point R. R., Atlanta.
Central of Georgia Rwy., Savannah, Ga.
Model Land Company, Flagler System,
St. Augustine, Fla.
Norfolk & Western Railway, Roanoke, Va.

RAILS (New and Used.)
Carnegie Steel Co., Pittsburgh, Pa.
Hyman-Michaels Co., Chicago, Ill.
Levis & Co., Henry, Philadelphia, Pa.
Perry, Buxton, Deane Co., Philadelphia.
Robinson & Orr, Pittsburgh, Pa.
Smith & Co., W. M., Birmingham, Ala.
Southern Iron & Equip. Co., Atlanta, Ga.
Sweet's Steel Co., Williamsport, Pa.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.
Zelnicker Supply Co., W. A., St. Louis.

RAILWAYS (Marine.)
Charleston Dry Dock and Machine Co.,
Charleston, S. C.

RECEPTACLES (Self-Closing — Waste Paper.)
Whitaker Paper Co., Baltimore, Md.

REFRIGERATING Machinery
(See Ice and Refrigerating Machinery and Supplies.)

REINFORCING for Concrete.
American Steel and Wire Co., Balto., Md.
Carnegie Steel Co., Pittsburgh, Pa.
Connors Steel Co., Birmingham, Ala.
Dietrich Brothers, Baltimore, Md.
Gulf States Steel Co., Birmingham, Ala.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
Knoxville Iron Co., Knoxville, Tenn.
Oliver Iron & Steel Corp., Pittsburgh, Pa.
Ryerson & Son, Inc., Jos. T., St. Louis
and New York.
Southern Engineering Co., Charlotte, N.C.
Truscon Steel Co., Youngstown, Ohio.

RIVER & HARBOR IMPROVEMENTS, (Dredging, Docks, Wharves, etc.)
Arundel Corp., The, Baltimore, Md.
Atlantic Gulf and Pacific Co., New York.
Kansas City Bridge Co., Kansas City.

RIVETS.
Russell, Burdall & Ward Bolt & Nut
Co., Port Chester, N. Y.

ROAD and Street Machinery.
Adams Co., J. D., Indianapolis, Ind.
Austin-Western Road Machry. Co., Chicago
Blaw-Knox Co., Pittsburgh, Pa.
Buffalo-Springfield Roller Co., Springfield,
O.
Caterpillar Tractor Co., Peoria, Ill.
Erie Machine Shops, Erie, Pa.
Harris Co., B. W. & Leo, Minneapolis,
Minn.
Huber Mfg. Co., The, Marion, Ohio.
Universal Crane Co., Lorain, Ohio.

—and Street Material.
Borley & Co., W. W., Roanoke, Va.
Dickinson & Co., J. Q., Malden, W. Va.
Truscon Steel Co., Youngstown, Ohio.
Woodstock Slag Corp., Birmingham, Ala.

—and Street Material (Dust Laying.)
Dickinson & Co., J. Q., Malden, W. Va.

—Graders and Scrapers.
Austin-Western Road Mchry. Co., Chicago.
Caterpillar Tractor Co., Peoria, Ill.

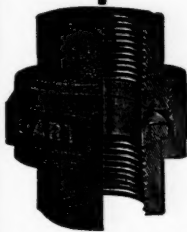
—Oils and Preservatives.
Gulf Refining Co., Pittsburgh, Pa.

THE QUALITY UNION

The Dart is the Quality Union, and quality is always cheapest.

The Dart is made of Malleable Iron, with extra heavy pipe ends and with double seated ball joint formed of bronze rings.

IN DART UNION THERE IS DOUBLE STRENGTH



E. M. DART MFG. CO.
PROVIDENCE, R. I.

The Fairbanks Company, Sales Agent
Dart Union Co., Ltd., Toronto, Canada.

REINFORCING BARS

Deformed. All sizes. Rounds and Squares ¼" to 1¼" New Billet Stock. Straight or Bent.
Warehouse or Mill Shipments.

KNOXVILLE IRON CO., Knoxville, Tenn.

STEEL

DESIGNERS, FABRICATORS, ERECTORS
of Structural Steel and Concrete Reinforcing Bars
Immediate Shipments from Charlotte Stock
Office and Plant: **CHARLOTTE, N.C.**

**SOUTHERN
ENGINEERING
COMPANY**

From One Source

You can secure your entire steel requirements from Bethlehem—with the assurance that each item is as good and dependable as the facilities of a completely equipped organization with years of experience can make it.

BETHLEHEM STEEL COMPANY

General Offices: Bethlehem, Pa.

District Offices: New York, Boston, Philadelphia, Baltimore, Washington, Atlanta, Pittsburgh, Buffalo, Cleveland, Cincinnati, Detroit, Chicago, St. Louis

Pacific Coast Distributor: Pacific Coast Steel Corporation, San Francisco, Los Angeles, Portland, Seattle, Honolulu.

BETHLEHEM

SOLAR SELF-CLOSING WASTE RECEPTACLES

- 1 Reduce Cleaning Costs.
- 2 Eliminate Fire Hazards.
- 3 Promote Sanitation.
- 4 Reduce Plumbing Expenses.
- 5 Harmonize with Finest Surroundings.
- 6 Will Last Many Years—no upkeep.



Solars are the modern way of collecting waste in a clean, silent, efficient, and unobjectionable manner. Dignified and beautiful in appearance. Made in nine sizes, and four color finishes.

THE WHITAKER PAPER COMPANY

Saratoga St. and Guilford Ave. Baltimore, Maryland





Hart, Freeland & Roberts, Architects and Engineers, Nashville, Tenn.
Warren, Knight & Davis, Associate Architects, Birmingham, Ala.; Foster & Creighton Company, Contractors, Birmingham, Ala., and Nashville, Tenn.

NATIONAL GARAGES

Birmingham, Ala.

**CONNORS
STEEL CO.**

Birmingham,
Ala.

Connors Rail Steel Reinforcing Bars were used in the construction of this unusual building. Long automobile ramps, winding from the first to the sixth story, sturdy walls and floors... all were made safe, fireproof and permanent with concrete, reinforced with Connors Bars. As usual, Connors Service made possible money-saving speed and efficiency in its construction. Send us your inquiries. Prices will be submitted without obligation.

CONNORS REINFORCING BARS

ROANOKE IRON & BRIDGE WORKS, Inc.
Structural and Ornamental Iron
Wrought Steel Fences
Steel Bridges
Jail Cells

Write for Estimates

ROANOKE, VA.

TANKS—STEEL PLATE CONSTRUCTION

Barges, Welded and Riveted Pipe, Penstocks,
Standpipes, Breechings and Stacks

OIL REFINERY and CHEMICAL EQUIPMENT
Pressure, Vacuum and Storage Tanks for All Purposes

LANCASTER IRON WORKS
Hager St., LANCASTER, PA.

DIETRICH BROTHERS

Structural and Ornamental Iron and Steel Works
Large Stock of Standard and Bethlehem Shapes
CONCRETE REINFORCEMENTS
BALTIMORE, MD.



BELMONT IRON WORKS
PHILADELPHIA NEW YORK EDDYSTONE
Southern Sales Offices, Charlotte, N. C.
Engineers Contractors Exporters
Structural Steel
Shop and Field Welded Steel Buildings

—Rollers (Steam and Gasoline.)
Austin-Western Road Mch. Co., Chicago.
Buffalo-Springfield Roller Co., Springfield, O.
Erie Machine Shops, Erie, Pa.
Huber Mfg. Co., The, Marion, Ohio.

—Scarifiers.
Austin-Western Road Mch. Co., Chicago.
Buffalo-Springfield Roller Co., Springfield, O.

ROOF INSULATION.
Armstrong Cork & Insulation Co., Lancaster, Pa.
United Cork Companies, Lendhurst, N. J.

ROOFING (Asphalt Built-Up.)
Barber Asphalt Co., Philadelphia, Pa.

—(Ready Prepared, Felt, Tar, Asbestos, Asphalt.)
Ruberoid Co., New York City.

—and Siding (Composition.)
Ruberoid Co., New York City.

—and Siding (Metal.)
American Rolling Mill Co., Middletown, O.
American Sheet and Tin Plate Co., Pittsburgh, Pa.
Gulf States Steel Co., Birmingham, Ala.
Ryerson & Son, Jos. T., St. Louis and New York.
Truscon Steel Co., Youngstown, Ohio.
Youngstown Sheet and Tube Co., Youngstown, O.

—Tile, Cement (Interlocking Flat, Channel Glass.)
Federal-American Cement Tile Co., Chicago.

—Tiles.
Federal-American Cement Tile Co., Chicago.

RULES (Steel.)
Lufkin Rule Co., Saginaw, Mich.

SAFES.
York Safe & Lock Co., York, Penna.

SAND.
Arundel Corp., Baltimore, Md.
Friend & Co., Inc., Petersburg, Va.
Georgia Sand & Gravel Co., Augusta, Ga.

SANITARY Drinking Fountains.
Rundle-Spence Mfg. Co., Milwaukee, Wis.

SASH (Industrial.)
Truscon Steel Co., Youngstown, Ohio.

SAWMILL Machinery.
Schofield's Sons Co., J. S., Macon, Ga.

SAW RIGS.
National Equipment Corp., (C. H. & E. Division), Milwaukee, Wis.

SAWS (Cold Metal.)
Earle Gear and Machine Co., Phila., Pa.

SCRAPERS (Drag and Wheel.)
Adams Co., J. D., Indianapolis, Ind.
Austin-Western Road Mch. Co., Chicago.
Harris Co., B. W. & Leo, Minneapolis, Minn.

SCRAP IRON AND STEEL.
Hunts Sons, M. J., Philadelphia, Pa.
Perry, Burton, Doane Co., Philadelphia.
Smith & Co., W. M., Birmingham, Ala.

SCREEN CLOTH.
Seneca Wire & Mfg. Co., Fostoria, Ohio.

SCREENING (For Concrete and Road Construction.)
American Limestone Co., Knoxville, Tenn.

SCREENS (Sand, Gravel, Stone, Coal, Ore, etc.)
Chicago Perforating Co., Chicago, Ill.
Diamond Iron Works, Minneapolis, Minn.
Erdie Perforating Co., Rochester, N. Y.
Hendrick Mfg. Co., Carbondale, Pa.
Mundt & Sons, Charles, Jersey City, N. J.
Universal Crusher Co., Cedar Rapids, Ia.

—(Sifting.)
Newark Wire Cloth Co., Newark, N. J.

SCREW-Machine Products.
Progressive Mfg. Co., Torrington, Conn.

SCREWS (Machine.)
Progressive Mfg. Co., Torrington, Conn.

SEAWALLS.
Shore-Line Builders, Inc., Jacksonville, Fla.

SEWAGE Disposal Apparatus.
Pacific Flush-Tank Co., New York, N. Y.

SEWER Joint Compounds.
Leadite Co., Philadelphia, Pa.
Pacific Flush-Tank Co., New York, N. Y.

—Pipe (Vitrified.)
Bannon Pipe Co., Louisville, Ky.
Lee Clay Products Co., Clearfield, Ky.
Owensboro Sewer Pipe Co., Owensboro, Ky.

—Pipe Machinery (Concrete.)
Quinn Wire & Iron Works, Boone, Iowa.

SHAFTING.
Ryerson & Sons, Inc., Jos. T., St. Louis and New York.

—Material (Tubular.)
National Tube Co., Pittsburgh, Pa.

SHARPENING Stones.
Carborundum Co., Niagara Falls, N. Y.

SHEET Metal Working Machinery.
Bliss Co., E. W., Brooklyn, N. Y.
Whitney Metal Tool Co., Rockford, Ill.
Yoder Co., The, Cleveland, Ohio.

—Steel and Iron.
American Sheet and Tin Plate Co., Pittsburgh, Pa.
Bethlehem Steel Co., Bethlehem, Pa.
Granite City Steel Co., Granite City, Ill.
Gulf States Steel Co., Birmingham, Ala.
Ryerson & Son, Inc., Jos. T., St. Louis and New York.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.
Youngstown Sheet & Tube Co., Youngstown, O.

SHEETS (Asbestos.)
Ruberoid Co., New York City.

—(Galvanized and Black.)
American Rolling Mill Co., Middletown.
American Sheet & Tin Plate Co., Pittsburgh, Pa.

SHINGLES (Asbestos.)
Ruberoid Co., New York City.

SHIPBUILDING.
Charleston Dry Dock & Machine Co., Charleston, S. C.
Newport News Shipbuilding & Dry Dock Co., Newport News, Va.

SHOVELS (Steam, Gas and Electric Power.)
Bucyrus-Erie Co., So. Milwaukee, Wis.
Harnischfeger Corp., Milwaukee, Wis.
Industrial Brownhoist Corp., Cleveland, O.
National Equipment Corp., (Kochling, Insley), Milwaukee, Wis.
Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.
Thew Shovel Co., The, Lorain, Ohio.

SHUTTERS (Steel.)
Merchant & Evans Co., Philadelphia, Pa.

SIEVES (Testing.)
Newark Wire Cloth Co., Newark, N. J.

SIGNALS (Danger.)
Toledo Pressed Steel Co., Toledo, Ohio.

SILICATE OF SODA.
Grasselli Chemical Co., Inc., Birmingham.

SITES (Manufacturing.)
Atlanta and West Point B. R., Atlanta.
Brown & Co., Chattanooga, Tenn.
Central of Georgia Rwy., Savannah, Ga.
Crisp County Power Commission, Cordele, Ga.
Danville, City of, Danville, Va.

Galveston, City of, Galveston, Texas.
Georgia Power Co., Atlanta, Ga.
Missouri-Kansas-Texas Lines, Dallas, Tex.
Model Land Company, (Flagler System),
St. Augustine, Fla.
Norfolk & Western Railway, Roanoke, Va.
Parkersburg, W. Va., Board of Com-
merce.
Reynolds Bros. Lbr. Co., Albany, Ga.
Southern Natural Gas Corp., Birmingham.
Texas Power & Light Co., Dallas, Texas.

SLABS (Concrete Floor.)

Federal-American Cement Tile Co., Chicago.

—(Concrete Roof.)

Federal-American Cement Tile Co., Chicago.

SLAG, For Concrete.

Woodstock Slag Corp., Birmingham, Ala.

—(Furnace.)

Woodstock Slag Corp., Birmingham, Ala.

SLINGS (Chain.)

Woodhouse Chain Works, Trenton, N. J.

—(Wire Rope.)

American Steel & Wire Co., Chicago, Ill.
Reebing's Sons Co., John A., Trenton, N. J.

SLUICE GATES AND APPLI- ANCES.

Smith Co., S. Morgan, York, Pa.

SPEED REDUCERS.

Earle Gear & Mach. Co., Phila., Pa.

SPIKES, (Railroad, Ship.)

Bethlehem Steel Co., Bethlehem, Pa.
Sweet's Steel Co., Williamsport, Pa.

SPRINGS (Machinery, Railway, Spiral Steel.)

American Steel & Wire Co., Balto., Md.

—(Wire—All Kinds.)

American Steel & Wire Co., Baltimore, Md.

SPIKERS (Automatic Fire.)

Southern Automatic Sprinkler Co.,
Birmingham.

SPOCKETS

Diamond Chain & Mfg. Co., Indianapolis,
Ind.

STACKS (Iron and Steel.)

Birmingham Boiler and Engineering Co.,
Birmingham, Ala.

Chattanooga Boiler & Tank Co., Chatta-
nooga, Tenn.

Chicago Bridge & Iron Wks., Birmingham.

Downtown Iron Works, Davenport, Pa.

Hedges Walsh Weldner Co., Chatta-
nooga, Tenn.

Ingalls Iron Works Co., Birmingham, Ala.

Lombard Iron Works & Supply Co., Au-
gusta, Ga.

Pittsburgh-Des Moines Steel Co., Pitts-
burgh, Pa.

Schofield's Sons Co., J. S., Macon, Ga.

U. S. Pipe & Foundry Co., Burlington, N. J.

Virginia Bridge & Iron Co., Roanoke, Va.

STAINS (Shingle, Woodwork.)

Cabot, Inc., Samuel, Boston, Mass.

STAIR Steps (Safety.)

Irving Iron Works Co., Long Is. City, N. Y.

—Treads.

Central Iron & Steel Co., Harrisburg, Pa.

Ryerson & Son, Inc., Jos. T., St. Louis
and New York.

STANDPIPES.

Chattanooga Boiler & Tank Co., Chatta-
nooga, Tenn.

Chicago Bridge & Iron Wks., Birmingham.

Pittsburgh-Des Moines Steel Co., Pitts-
burgh, Pa.

STATIONERS (Envelopes, Letter and Billheads, etc.)

Smith & Son Co., Oscar T., Baltimore, Md.

Young & Selden Co., Baltimore, Md.

STEAM (Specialties.)

Lunkheimer Co., The, Cincinnati, O.

Mueller Co., Decatur, Ill.

STEEL.

Bethlehem Steel Co., Bethlehem, Pa.

Central Iron & Steel Co., Harrisburg, Pa.

Dietrich Brothers, Baltimore, Md.
Gulf States Steel Co., Birmingham, Ala.
Jones & Laughlin Steel Corp., Pitts-
burgh, Pa.
Oliver Iron & Steel Corp., Pittsburgh, Pa.
Ryerson & Son, Inc., Jos. T., St. Louis
and New York.
Tennessee Coal, Iron & Railroad Co., Bir-
mingham, Ala.
Virginia Bridge & Iron Co., Roanoke, Va.

—(Alloy.)

Timken Roller Bearing Co., Canton, Ohio.

—(Cold Rolled.)

American Steel & Wire Co., Balto., Md.

—(Fabricators.)

United Welding Co., Middletown, O.

—(Special Analysis.)

Timken Roller Bearing Co., Canton, Ohio

—(Tool, High Speed.)

Bethlehem Steel Co., Bethlehem, Pa.

—Buildings (Designers and Builders.)

American Bridge Co., New York, N. Y.

Belmont Iron Works, Philadelphia, Pa.

Carolina Steel & Iron Co., Greensboro, N. C.

Eichleay, Jr., Co., John, Pittsburgh, Pa.

Ingalls Iron Works Co., Birmingham, Ala.

McClintic-Marshall Co., Pittsburgh, Pa.

Phoenix Iron Co., The, Phila., Pa.

Pittsburgh-Des Moines Steel Co., Pitts-
burgh, Pa.

Virginia Bridge & Iron Co., Roanoke, Va.

—Forms (Curb, Gutter, Side- walk, Road.)

Blaw-Knox Co., Pittsburgh, Pa.

—Plate Construction (Riveted or Welded.)

Birmingham Boiler & Engr. Co., Bir-
mingham, Ala.

Birmingham Tank Co., Birmingham.

Bristol Steel & Iron Works, Inc., Bris-
tol, Va.

Carolina Steel & Iron Co., Greensboro, N. C.

Central Iron & Steel Co., Harrisburg, Pa.

Chattanooga Boiler & Tank Co., Chatta-
nooga, Tenn.

Chicago Bridge & Iron Wks., Birmingham.

Combustion Engr. Corp., New York City.

Hedges Walsh Weldner Co., Chatta-
nooga, Tenn.

Ingalls Iron Works Co., Birmingham, Ala.

Lancaster Iron Works, Inc., Lancaster, Pa.

Phoenix Iron Co., The, Phila., Pa.

Pittsburgh-Des Moines Steel Co., Pitts-
burgh, Pa.

Schofield's Sons Co., J. S., Macon, Ga.

Traylor Engr & Mfg. Co., Allentown, Pa.

United Welding Co., Middletown, O.

STILLS.

Alco Products, Inc., New York City.

STOKERS (Mechanical.)

Alabama Stoker & Boiler Co., Birming-
ham, Ala.

Babcock & Wilcox Co., The, New York.

Combustion Engr. Corp., New York City.

Detroit Stoker Company, Detroit, Mich.

STORAGE Batteries.

Electric Storage Battery Co., Philadelphia.

—Bins (Steel.)

Blaw-Knox Co., Pittsburgh, Pa.

Butler Bin Co., Waukegan, Wis.

STRINGERS (Bridge-Creosoted.)

American Creosoting Co., Louisville, Ky.

STRUCTURAL STEEL AND IRON.

American Bridge Co., New York, N. Y.

Belmont Iron Works, Philadelphia, Pa.

Bristol Steel & Iron Works, Inc., Bris-
tol, Va.

Carnegie Steel Co., Pittsburgh, Pa.

Carolina Steel & Iron Co., Greensboro, N. C.

Chattanooga Boiler & Tank Co., Chatta-
nooga, Tenn.

Converse Bridge & Steel Co., Chatta-
nooga, Tenn.

Dietrich Brothers, Baltimore, Md.

Eichleay, Jr., Co., John, Pittsburgh.

Ingalls Iron Works Co., Birmingham, Ala.

Jones & Laughlin Steel Corp., Pitts-
burgh, Pa.

McClintic-Marshall Co., Pittsburgh, Pa.

Phoenix Iron Co., The, Phila., Pa.

Pittsburgh-Des Moines Steel Co., Pitts-
burgh, Pa.

Roanoke Iron & Bridge Works, Inc.,
Roanoke, Va.

Ryerson & Son, Inc., Jos. T., St. Louis
and New York.

Speed Architectural Iron Works, Louis-
ville, Ky.

Southern Engineering Co., Charlotte, N. C.

Tennessee Coal, Iron & Railroad Co.,
Birmingham, Ala.

Virginia Bridge & Iron Co., Roanoke, Va.

SULPHATE OF ALUMINA.

Grasselli Chemical Co., Inc., Birmingham.

HANGARS... AIRPLANE...



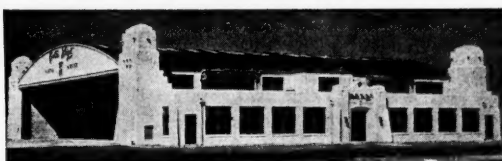
The S:A:F:E Way is the S.T.E.E.L. Way

THIS HANGAR was built for the Southwest
Air Fast Express (S. A. F. E. WAY) at Tulsa,
Okla. by The Austin Company. We furnished
the complete steel framework.

For attractive appearance and practical design,
this hangar speaks right out in the meeting in favor
of steel.

VIRGINIA BRIDGE & IRON CO.
Roanoke Birmingham Memphis Atlanta New Orleans
New York Los Angeles Charlotte Dallas El Paso

VIRGINIA BRIDGE



Curtis-Wright Flying Service, Miami, Fla.

Ingalls Airplane Hangars

Ingalls steel is used in some of the most at-
tractive and efficient hangars of the country.
The Ingalls Truss is especially adapted to this
kind of construction.

Quotations made promptly on all types of
structural steel (including erection), plate work,
tanks, standard steel buildings, bridges . . . and
Ingalls Service goes with every order. Your
inquiries are solicited.

The Ingalls Iron Works Company

Main Office and Plants: Birmingham, Ala.
Eastern Plant: Verona, Pa. (in Pittsburgh District)
Branch Sales Offices: New York, New Orleans, Tampa,
Charlotte, N. C., Tulsa, Jackson, Miss.

... STANDARD ...
STEEL BUILDINGS

STEEL PLATE CONSTRUCTION



BENZOL PLANT EQUIPMENT

We here show a dephlegmator . . . a rather complicated piece of equipment . . . made by us for one of the benzol plants constructed by Koppers Company.

We are equipped to do any kind of special plate work, in addition to riveted or welded stacks, air ducts, bins, storage tanks, ladles, machine guards, large pipe, etc. Send us your specifications.

Standard Line of Oil Storage Tanks Carried In Stock.

BIRMINGHAM BOILER & ENGINEERING CO.
Birmingham, Ala.

BIRMINGHAM BOILER

STEEL PLATE CONSTRUCTION

We Grow These Tanks!



To make sure of the quality of the cypress that goes into "The Tank with a Reputation" we use wood from our own trees, cut in our own sawmills, finished in our own shops by our own workmen with the benefit of thirty years experience in tank designing and building.

The combination means real economy to you in cost and in long, faithful service. Get the Caldwell story the next time you are thinking of tanks.

Send for Catalog

W. E. Caldwell Co.
Incorporated
1900 Brook St., Louisville, Kentucky

Caldwell
TANKS
AND
TOWERS

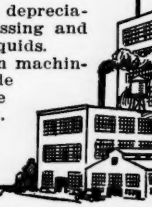
DAVIS CYPRESS TANKS

Some especially desirable attributes must surround Davis Tanks—when you realize that leading manufacturers and railroads of the South have bought them repeatedly for 42 years. In truth, there are two reasons:

1. Cypress is unequalled for durability, low depreciation and varied usefulness in storage, processing and handling chemicals and other liquids.

2. Davis tanks, built by modern machinery and skilled men, can be made to fit any factory need, in any size and shape. Catalog on request.

G. M. DAVIS & SON
P. O. Box 5, Palatka, Florida



SULPHIDE OF SODA.
Grasselli Chemical Co., Inc., Birmingham.

SULPHURIC ACID.
Davison Chemical Co., The, Balto., Md.
Du Pont de Nemours & Co., Inc., E. I.,
Wilmington, Del.

SUPER-HEATERS (Steam.)
Babcock & Wilcox Co., The, New York.

SURVEYS (Industrial.)
MacElwee & Crandall, Inc., Cambridge,
Mass.
Technical Service Co., New York, N. Y.

—(Quantity.)
Martin, Joe B., Charlotte, N. C.

SURVEYING INSTRUMENTS.
Weber Co., Inc., P., Philadelphia, Pa.

SWINGING ENGINES.
Dake Engine Co., Grand Haven, Mich.

**SWITCHBOARDS, SWITCHES,
ETC.**
General Electric Co., Schenectady, N. Y.
Westinghouse Elec. & Mfg. Co., E. Pitts-
burgh, Pa.

SYSTEMS (Business.)
Ernst & Ernst, New York, N. Y.
May, Inc., Geo. S., Chicago, Ill.

TANKS (Air Compressor.)
Air-Tight Steel Tank Co., Pittsburgh, Pa.
Titusville Iron Works Co., Titusville, Pa.

—(Elevated Steel.)
Caldwell Co., Inc., W. E., Louisville, Ky.
Chattanooga Boiler & Tank Co., Chat-
tanooga, Tenn.
Chicago Bridge & Iron Wks., Birmingham.
Cole Mfg. Co., R. D., Newnan, Ga.
Pittsburgh-Des Moines Steel Co., Pitts-
burgh, Pa.
Schofield's Sons Co., J. S., Macon, Ga.
Virginia Bridge & Iron Co., Roanoke, Va.

—(Elevated Wood.)
Caldwell Co., Inc., W. E., Louisville, Ky.
Davis & Son, G. M., Palatka, Fla.

—(Iron and Steel.)
Air-Tight Steel Tank Co., Pittsburgh, Pa.
American Bridge Co., New York, N. Y.
Birmingham Tank Co., Birmingham, Ala.
Chattanooga Boiler & Tank Co., Chat-
tanooga, Tenn.
Chicago Bridge & Iron Wks., Birmingham.
Cole Mfg. Co., R. D., Newnan, Ga.
Downingtown Iron Works, Downingtown, Pa.
Lancaster Iron Works, Inc., Lancaster, Pa.
Lombard Iron Works & Supply Co., Au-
rora, Ill.
McClintic-Marshall Co., Pittsburgh, Pa.
Pittsburgh-Des Moines Steel Co., Pitts-
burgh, Pa.
Schofield's Sons Co., J. S., Macon, Ga.
Titusville Iron Works Co., Titusville, Pa.
Virginia Bridge & Iron Co., Roanoke, Va.
Westinghouse Traction Brake Co., Wil-
merding, Pa.

—Mixing.
Alco Products, Inc., New York, N. Y.

—(Pressure.)
Air-Tight Steel Tank Co., Pittsburgh, Pa.
Newport News Shipbuilding & Dry Dock
Co., Newport News, Va.

—(Seamless Steel.)
Air-Tight Steel Tank Co., Pittsburgh, Pa.
National Tube Co., Pittsburgh, Pa.

—(Storage, Oil, etc.)
Biggs Boiler Works, Akron, Ohio.
Birmingham Boiler & Engr. Co., Bir-
mingham, Ala.
Chattanooga Boiler & Tank Co., Chat-
tanooga, Tenn.
Chicago Bridge & Iron Wks., Birmingham.
Downingtown Iron Works, Downingtown, Pa.
Ingalls Iron Works Co., Birmingham, Ala.
Pittsburgh-Des Moines Steel Co., Pitts-
burgh, Pa.
Titusville Iron Works Co., Titusville, Pa.
United Welding Co., Middletown, O.

—(Welded.)
Welded Products Co. of La., Inc., New
Orleans, La.

—(Wood.)
Caldwell Co., Inc., W. E., Louisville, Ky.
Davis & Son, G. M., Palatka, Fla.
Virginia Mch. & Well Co., Richmond, Va.

TAPE (Measuring.)
Lufkin Rule Co., Saginaw, Mich.

TARPAULINS.
Fulton Bag & Cotton Mills, Atlanta, Ga.

TAX SPECIALISTS.
Ernst & Ernst, New York, N. Y.

TELEPHONE SERVICE.
American Telephone & Telegraph Co.

TENTS
Fulton Bag & Cotton Mills, Atlanta, Ga.

TEXTILE CHEMICALS.
Grasselli Chemical Co., Inc., Birmingham.

TIES (Creosoted.)
American Creosoting Co., Louisville, Ky.

TILE (Cement Roofing.)
Federal-American Cement Tile Co., Chicago.

—(Cork Composition.)
Congoleum-Nairn, Inc., Kearny, N. J.

—(Cork Flooring.)
Congoleum-Nairn, Inc., Kearny, N. J.
United Cork Companies, Lynchburg, N. J.

—(Floor.)
Hood Co., B. Miffin, Daisy, Tenn.

—(Roof.)
Hood Co., B. Miffin, Daisy, Tenn.

—(Sewer.)
Lee Clay Products Co., Clearfield, Ky.

TIMBER (Creosoted.)
Amer. Creosote Wks., Inc., New Orleans.
Amer. Creosoting Co., Inc., Louisville, Ky.

TIN AND TERNE PLATES.
American Sheet & Tin Plate Co., Pitts-
burgh, Pa.
Bethlehem Steel Co., Bethlehem, Pa.
Granite City Steel Co., Granite City, Ill.
Youngstown Sheet & Tube Co., Youngs-
town, Ohio.

TOBACCO MACHINERY.
Ripley Foundry & Machine Co., Ripley, O.

TOOLS (Measuring.)
Lufkin Rule Co., Saginaw, Mich.

TORCHES (Bombshell.)
Toledo Pressed Steel Co., Toledo, Ohio.

**TOWERS (Electric Transmis-
sion.)**
American Bridge Co., New York, N. Y.
Bessemer Galvanizing Works, Birmingham.

—(Radio.)
Bessemer Galvanizing Works, Birmingham.

—(Steel and Wood.)
Chattanooga Boiler & Tank Co., Chat-
tanooga, Tenn.
Cole Mfg. Co., R. D., Newnan, Ga.

TRACK (Portable or Permanent.)
Equipment Corp. of America, Chicago, Ill.
Sweet's Steel Co., Williamsport, Pa.

TRACTORS (Industrial.)
Atlas Car & Mfg. Co., The, Cleveland, O.
Caterpillar Tractor Co., Peoria, Ill.
Clark Tractor Co., Battle Creek, Mich.
Cleveland Tractor Co., Cleveland, Ohio.
International Harvester Co. of America,
Inc., Chicago, Ill.

—(Road.)
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Caterpillar Tractor Co., Peoria, Ill.
Cleveland Tractor Co., Cleveland, Ohio.

**TRAILERS (Arch-Girder, Heavy
Duty.)**
Williams Co., G. H., Erie, Pa.

TRAMWAYS (Aerial Wire Rops.)
American Steel & Wire Co., Balto., Md.

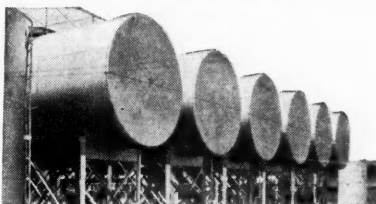
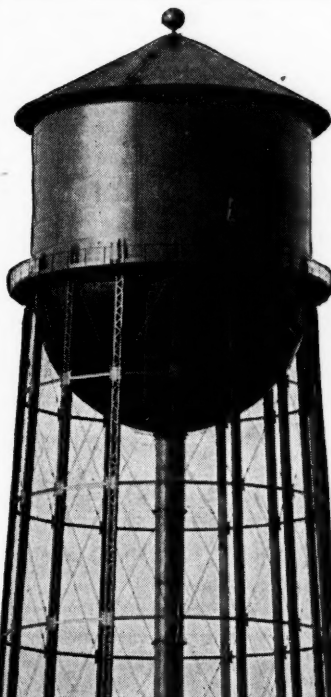
TRANSFORMERS.
General Electric Co., Schenectady, N. Y.
Westinghouse Elec. & Mfg. Co., E. Pitts-
burgh, Pa.

—(Used.)
Electric Service Co., Cincinnati, O.

**TRANSMISSION TOWERS (Gal-
vanized.)**
McClintic-Marshall Co., Pittsburgh, Pa.

TRENCH MACHINERY. See
Excavators (Trench.)**TRI-SODIUM PHOSPHATE.**
Grasselli Chemical Co., Inc., Birmingham.**TRUCK CRANES.**
Universal Crane Co., Lorain, O.**TRUCKS (Industrial.)**
Atlas Car & Mfg. Co., The, Cleveland, O.—(Motor.)
International Harvester Co., of America,
Inc., Chicago, Ill.—(Platform, Freight, Mill, Fac-
tory, etc.)
Clark Tractor Co., Battle Creek, Mich.**TUBES (Boiler.)** See Boiler
Tubes.**TUBING (Seamless Steel.)**
National Tube Co., Pittsburgh, Pa.
Timken Rolling Bearing Co., Canton, O.**TURBINES (Deep Well.)**
Cook, Inc., A. D., Lawrenceburg, Ind.—(Hydraulic.)
Newport News Shipbuilding & Dry Dock
Co., Newport News, Va.
Smith Co., S. Morgan, York, Pa.—(Steam.)
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
DeLaval Steam Turbine Co., Trenton, N.J.
General Electric Co., Schenectady, N. Y.
Westinghouse Elec. & Mfg. Co., E. Pitts-
burgh, Pa.**TURNBUCKLES.**
Russell, Burdall & Ward Bolt & Nut
Co., Port Chester, N. Y.**TURNABLES.**
American Bridge Co., New York, N. Y.
Virginia Bridge & Iron Co., Roanoke, Va.—(Portable for Motor Trucks.)
Blaw-Knox Co., Pittsburgh, Pa.**UNIONS.**
Dart Mfg. Co., E. M., Providence, R. I.—(Valves.)
Ludlow Valve Mfg. Co., The, Troy, N. Y.
Lunkenheimer Co., The, Cincinnati, Ohio.
Marco Nordstrom Valve Co., San Fran-
cisco, Cal.
Mueller Co., Decatur, Ill.
Newport News Shipbuilding & Dry Dock
Co., Newport News, Va.
Westinghouse Traction Brake Co., Wil-
merding, Pa.—(Acid Proof.)
Lunkenheimer Co., The, Cincinnati, Ohio.—(Gate.)
Ludlow Valve Mfg. Co., The, Troy, N. Y.
Lunkenheimer Co., The, Cincinnati, Ohio.
Wood & Co., E. D., Philadelphia, Pa.**VAULTS (Bank and Safe De-
posit.)**
York Safe & Lock Co., York, Penna.**VENTILATORS (Roof.)**
Merchant & Evans Co., Philadelphia, Pa.**WARDROBES (Hygienic,
School.)**
Wilson Corp., The J. G., New York.**WATCHMAN'S PORTABLE
CLOCKS.**
Davis-Paradis Watchman's Clock Corp.,
New York, N. Y.**WATERPROOFING (For Brick,
Concrete, Granite.)**
Headley Emulsified Products Co., Phila-
delphia, Pa.
Sonneborn, Sons, Inc., L., New York.**WATER Purification.**
Becharach & Co., E. W., Kansas City,
Mo.
Roberts Filter Mfg. Co., Darby (Phila.), Pa.—Softening Apparatus (Purify-
ing.)
American Water Softener Co., Phila., Pa.
International Filter Co., Chicago, Ill.—Well Supplies.
Cook, Inc., A. D., Lawrenceburg, Ind.—Works Supplies and Appli-
ances.
Amer. Cast Iron Pipe Co., Birmingham.
Cast Iron Pipe Research Assn., Chicago.
Glamorgan Pipe & Fdry. Co., Lynchburg,
Va.
Leadite Co., Philadelphia, Pa.
Mueller Co., Decatur, Ill.
U. S. Pipe & Foundry Co., Burlington, N.J.
Wood & Co., E. D., Philadelphia, Pa.**WELDING APPARATUS (Elec-
tric Arc.)**
General Electric Co., Schenectady, N. Y.
Westinghouse Elec. & Mfg. Co., E. Pitts-
burgh, Pa.**WELL CONTRACTORS (Oil,
Artesian, etc.)**
Petersburg Mchry. Pump & Well Co.,
Petersburg, Va.
Virginia Machy. & Well Co., Richmond, Va.**WELL STRAINERS (Brass.)**
Cook, Inc., A. D., Lawrenceburg, Ind.**WHEELS AND AXLES.**
Carnegie Steel Co., Pittsburgh, Pa.**WINDOW Frames and Sash
(Metal.)**
Bayley Co., The William, Springfield, O.
Truseon Steel Co., Youngstown, Ohio.**WINDOWS (Bronze Casement.)**
Michels Art Bronze Co., Covington, Ky.—(Steel Casement, Casement.)
Bayley Co., The William, Springfield, O.—(Steel Pivoted, Screened.)
Bayley Co., The William, Springfield, O.—(Ventilating.)
Bayley Co., The William, Springfield, O.**WIRE (All Kinds.)**
American Steel & Wire Co., Chicago
Jones & Laughlin Steel Corp., Pitts-
burgh, Pa.
Ryerson & Son, Inc., Jos. T., St. Louis
and New York
Seneca Wire & Mfg. Co., Fostoria, O.—(Barbed Wire, etc.)
American Steel & Wire Co., Balto., Md.
Gulf States Steel Co., Birmingham, Ala.
Youngstown Sheet & Tube Co., Youngs-
town, Ohio.—(Fence.)
Cyclone Fence Co., Waukegan, Ill.—(Flat and Round.)
American Steel & Wire Co., Balto., Md.
Roebbing's Sons Co., John A., Trenton, N.J.
Seneca Wire & Mfg. Co., Fostoria, O.—(Galvanized and Annealed.)
Gulf States Steel Co., Birmingham, Ala.
Seneca Wire & Mfg. Co., Fostoria, Ohio.—Cloth (Iron, Steel, Copper,
Brass, etc.)
Harrington & King Perf. Co., Chicago.
Newark Wire Cloth Co., Newark, N. J.
Roebbing's Sons Co., John A., Trenton,
N. J.
Seneca Wire & Mfg. Co., Fostoria, O.—Goods.
Cyclone Fence Co., Waukegan, Ill.—Rope (Transmission, Hoist-
ing, Haulage.)
American Steel & Wire Co., Chicago, Ill.
Roebbing's Sons Co., John A., Trenton, N.J.—Rope Clips.
American Steel & Wire Co., Balto., Md.—Stapling.
Seneca Wire & Mfg. Co., Fostoria, O.—(Telephone and Telegraph.)
American Steel & Wire Co., Balto., Md.—(Welding.)
American Steel & Wire Co., Chicago, Ill.
Roebbing's Sons Co., John A., Trenton, N.J.
Seneca Wire & Mfg. Co., Fostoria, Ohio.**ZINC CHLORIDE.**
Grasselli Chemical Co., Inc., Birmingham.**ZINC META ARSENITE (Wood
Preservative.)**
Curtin-Howe Corp., New York City.
Gulf States Crocs. Co., Hattiesburg, Miss.STEEL TANKS
SMOKESTACKS
STEEL PIPE
GAS HOLDERS
STEEL BINS
RETORTS
STEEL PLATE
WORKCreosoting cylin-
der, 8 x 150 ft.

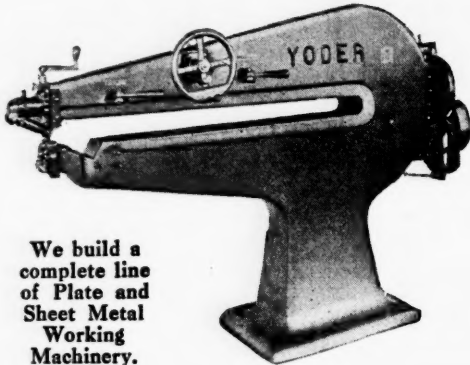
B-195

**HORTON**
Steel
Plate WorkDesigned and built by:
CHICAGO BRIDGE & IRON WORKS.Birmingham.....1530 Fifth St., North
Dallas.....3308 Burt Bldg.
Houston.....1114 Electric Bldg.
Tulsa.....2411 Exchange Bank Bldg.
New York.....3113 Hudson Terminal
Cleveland.....2216 Midland Bank Bldg.
Chicago.....2106 Old Colony Bldg.
San Francisco.....1040 Bialto Bldg.
Philadelphia.....2619-1616 Walnut St. Bldg.
Detroit.....1510 Lafayette Bldg.
Boston.....1510 Consol. Gas Bldg.
Seattle.....4328 Smith Tower**SOUTHLAND
PRODUCTS****CHATTANOOGA BOILER & TANK CO.**
Chattanooga, Tenn.STAND
PIPESSMOKE
STACKSTOWERS
AND
TANKSSTEEL
RIVETED
PIPE**COLE**One of Country's
Largest and Highest
Water Tank and TowerThis million gallon
COLE water tank
and tower, the last
unit in an enlarged
water supply system
for Gastonia, N. C.,
is 56 ft. in diameter
and a full hemispheri-
cal bottom gives a
total depth of 62 ft.The supporting tower
is composed of 16
columns and the dis-
tance from the base
to top of tank proper
is 200 ft.Particular attention
was paid to develop-
ing an attractive as
well as a substantial
structure.Put YOUR problem
up to OUR Engineer-
ing Department.**R. D. COLE MANUFACTURING CO.**

Established 1854

NEWNAN, GA.

New York Office,
5 Beekman St.



We build a complete line of Plate and Sheet Metal Working Machinery.

Yoder No. S-60 Rotary Shear

This shear, with 60" gap to accommodate large sheets, will cut any weight of sheet metal up to 14 gauge. It can be used for short curves in any direction and will cut circles without running in from the side of material. This machine has two speeds controlled by hand lever and is equipped with a Yoder friction clutch. Write for further information.

THE YODER COMPANY
W. 55 ST. and WALWORTH AVE.
CLEVELAND, OHIO
PLATE AND SHEET METAL MACHINERY SPECIALISTS

THE FAIRFIELD WAY

CONVEYING MACHINERY

BUCKET ELEVATORS
BELT CONVEYORS
FAIRFIELD LIFE-TIME IDLERS
DRAG CONVEYORS
APRON CONVEYORS
SKIP HOISTS
MINE CAR LOADERS
MINE SECTIONAL CONVEYORS
FEEDERS—ALL TYPES
PORTABLE CONVEYORS

THE FAIRFIELD ENGINEERING CO.
MARION, OHIO

WRITE FOR CATALOG NO. 131 MR

Water Purification Plants

Any Type—Any Purpose—Any Capacity

Dry Chemical Feed Machines
Swimming Pool Filters

E. W. BACHARACH & CO.
Rialto Bldg. Kansas City, Mo.

WATER FILTERS

Pressure and Gravity type for Municipal Water Supplies, Rayon Manufacturing Plants, Textile Finishing Establishments, Raw Water Ice Plants, Laundries, Etc.

ROBERTS FILTER MANUFACTURING COMPANY
604 Columbia Avenue Darby, Pennsylvania



Water Purification Equipment

Water Softeners and Filters—Of Every Type and Size
Taste—Odor—Chlorine—Color—Iron Removal Plants
Wet and Dry Chemical Feeders—Proportioning Devices
Rate of Flow Controllers—Gauges—Venturi Meters

INTERNATIONAL FILTER CO. 59 EAST VAN BUREN STREET
CHICAGO

WATER PURIFICATION FILTERS and SOFTENERS

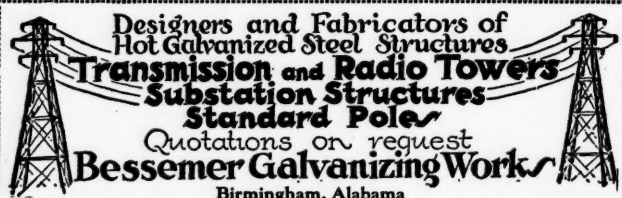
for Industrial Plants, Railroads
Swimming Pools and Municipalities

AMERICAN WATER SOFTENER CO., INC.
S. E. Cor. 4th & Lehigh Ave. Philadelphia

GALVANIZING—Hot Process

Cadmium Plating a Specialty

GALVANIZED PRODUCTS FURNISHED
BIRMINGHAM GALVANIZING CO.
Birmingham, Ala.



Designers and Fabricators of
Hot Galvanized Steel Structures
Transmission and Radio Towers
Substation Structures
Standard Poles
Quotations on request
Bessemer Galvanizing Works
Birmingham, Alabama

GALVANIZING HOT DIPPED PROCESS

The largest job galvanizing plant in the United States
GALVANIZED PRODUCTS FURNISHED

JOSEPH P. CATTIE & BROTHERS
PHILADELPHIA, PA.

UNITED'S



SERVICE

CORK PIPE COVERING

CORKBOARD INSULATION FOR COLD
CORK TILE FLOORS

Send for our

STORAGE ROOMS, TANKS, ETC.
BULLETIN BOARDS
literature and prices.

ROOF INSULATION

UNITED CORK COMPANIES, Main Office and Factories, LYNTHURST, N. J.

| A | B | C | D | E | F | G | H | I | J | K | L | M | N |
|------------------------------------|---|----------------------|--------------------------------------|------------------------------|---------------------------|--------------------------------|-----------------------------------|---|------------------------------|------------------------------|---------------------------------|---------------------------------|--|
| Adams Co., J. D. | Babcock & Wilcox Co. | Cabot, Inc., Samuel. | Dake Engine Co. | Earle Gear & Machine Co. | Fairbanks, Morse & Co. | Galveston, Texas, City of. | Haas Pattern Co., A. W. | Industrial Brownhoist Corp. | Jackson Lumber Co. | Kansas City Bridge Co. | LaBour Co., Inc. | MacElwee & Crandall, Inc. | Nashville Ind. Corp. |
| Adam Electric Co., Frank. | Bacharach & Co., E. W. | Caldwell Co., W. E. | Danville (Va.) City of. | Eichley, Jr., Co., John. | Fairfield Engineering Co. | Galveston Wharf Co. | Hanchett Bond Co. | Ingalls Iron Works Co. | Jaeger Machine Co. | Kennedy-Riegler Drilling Co. | Lancaster Iron Works. | Main, Inc. Chas. T. | National Cast Iron Pipe Co. |
| Adams Machinery Co., T. G. | Baltimore Commercial Bank. | Cardworndum Co. | Dart Mfg. Co., E. M. | Electric Bond & Share Co. | | Gardner & Howe. | Hardaway Contracting Co. | International Filter Co. | Jefferson Foundry Co. | Kerlow Steel Flooring Co. | Law & Co., A. M. | Manhattan Perforated Metal Co. | National Paving Brick Mfrs. Assn. |
| Adelman's Pipe & Steel Co. | Baltimore Trust Co. | | Dart Mfg. Co., E. M. | Electric Service Co. | | Gay & Co., W. O. | Harnischfeger Corp. | International Harvester Co. of America. | Jones & Laughlin Steel Corp. | King, Philip T. | Layne & Bowler, Inc. | Marine Metal & Supply Co. | National Traffic Guard Co. |
| Air-Tight Steel Tank Co. | Bank of New York & Trust Co. | | Davis-Paradis Watchman's Clock Corp. | Electric Storage Battery Co. | | General Electric Co. | Harrington & King Perforating Co. | Irving Iron Works Co. | | Kirby Lumber Co. | Leadite Co. | McCrory Co., J. B. | National Tube Co. |
| Alabama Power Co. | Bannon Pipe Co. | | Dawson Chemical Co. | Ernst & Ernst. | | General Machine Works. | Harris Co., B. W. & Leo. | | | Knowles, Morris, Inc. | Le Bourc, A. | Lockwood Greene Engrs., Inc. | Newark Wire Cloth Co. |
| Alaska Stoker & Boiler Co. | Barber Asphalt Co. | | DeKalb, Courtenay. | | | Georgia Creosoting Co. | Harza Engineering Co. | | | Knorrville Iron Co. | Lee Clay Products Co. | Lombard Iron Works & Supply Co. | Newport News Shipbuilding & Dry Dock Co. |
| Albert & Davidson Pipe Corp. | Barber-Greene Co. | | DeLaval Steam Turbine Co. | | | Georgia Iron Works. | Headley Emulsified Products Co. | | | | Lee Sand & Gravel Co. | Lookout Boiler & Mfg. Co. | Niagara Blower Co. |
| Albert Pipe Supply Co. | Barrow-Agee Laboratories. | | Delaware Registration Trust Co. | | | Georgia Marble Co. | Heath Co., J. S. | | | | Lehigh Portland Cement Corp. | Ludlow Valve Mfg. Co. | Nichols Contracting Co. |
| Alco Products, Inc. | Barstow & Co., W. S. | | Detroit Stoker Co. | | | Gerding Bros. | Hedges Walsh Weidner Co. | | | | Limex Portland Cement Corp. | Lufkin Rule Co. | Norfolk and Western Railway. |
| Allis-Chalmers Mfg. Co. | Bay City Shovel, Inc. | | Diamond Chain & Mfg. Co. | | | Glamorgan Pipe & Fdry. Co. | Heiss Hotel. | | | | Lima Excavator Sales Agency. | Lunkenheimer Co. | Northwestern Chimney Construction Co. |
| Alpaugh & Sons, Chas. W. | Bedford Foundry & Machine Co. | | Diamond Iron Works. | | | Goder, Joseph. | Hendrick Mfg. Co. | | | | Lockwood Greene Engrs., Inc. | | Northwest Engineering Co. |
| Alpha Portland Cement Corp. | Bessemer Galvanizing Works. | | Dickinson & Co., J. Q. | | | Goldens' Foundry & Machine Co. | Hill & Griffith Co. | | | | Loomis Portland Cement Co. | | Nuveen & Co., John. |
| American Bridge Co. | Bethlehem Steel Co. | | Dietrich Brothers. | | | Granite City Steel Co. | Hills & Youngsberg. | | | | Lowell Portland Cement Co. | | |
| American Cast Iron Pipe Co. | Birmingham Boiler & Engr. Co. | | Dixon Crucible Co., Jos. | | | Grasselli Chemical Co. | Hires Turner Glass Co. | | | | Lucas Portland Cement Co. | | |
| American Creosote Works Inc. | Birmingham Galvanizing Co. | | Dow & Smith. | | | Greenpoint Iron & Pipe Co. | Hobbs, Inc., Lewter F. | | | | Lyons Portland Cement Co. | | |
| American Crescenting Co. | Birmingham Tank Co. | | Downingtown Iron Works. | | | Greenspon's Sons Co., Jos. | Holt Hardwood Co. | | | | Madison Portland Cement Co. | | |
| American Elevator & Machine Co. | Blackburn, Jr. R. J. | | Dunning & Boschert Press Co. | | | Greiner & Co., J. E. | Honhorst Co., Jos. | | | | Malaga Portland Cement Co. | | |
| American Gas Association. | Blair, Algernon. | | DuPont de Nemours & Co., E. I. | | | Gridley Constr. Co., Lee A. | Hood Co., B. Mifflin. | | | | Manchester Portland Cement Co. | | |
| American Limestone Co. | Blaw-Knox Co. | | | | | Gulf Refining Co. | Hoosier Engineering Co. | | | | Maple Ridge Portland Cement Co. | | |
| American Pipe Bending Machine Co. | Blm Co., E. W. | | | | | Gulf States Creosoting Co. | Hornbuckle Contracting Co. | | | | Marquette Portland Cement Co. | | |
| American Rolling Mill Co. | Blystone Mfg. Co. | | | | | Gulf States Steel Co. | Howard-Hickory Co. | | | | Massena Portland Cement Co. | | |
| American Sheet & Tin Plate Co. | Boxley & Co., W. W. | | | | | Gunite Concrete & Constr. Co. | Huber Manufacturing Co. | | | | Mayfield Portland Cement Co. | | |
| American Steel & Wire Co. | Bristol Steel & Iron Works, Inc. | | | | | | Hudson Pipe & Supply Co. | | | | Medford Portland Cement Co. | | |
| American Telephone & Telegraph Co. | Brown & Co. | | | | | | Huey, S. E. | | | | Metzger Portland Cement Co. | | |
| American Water Softener Co. | Brown Wood Preserving Co. | | | | | | Hunt Co., Robert W. | | | | Michigan Portland Cement Co. | | |
| American Well Works. | Bucyrus-Erie Co. | | | | | | Hunt's Sons Co., M. J. | | | | Minneapolis Portland Cement Co. | | |
| Andrews Co., A. H. | Buffalo-Springfield Roller Co. | | | | | | Hyman-Michaels Co. | | | | Missouri Portland Cement Co. | | |
| Armstrong Cork & Insulation Co. | Burke, J. V. & R. T. | | | | | | | | | | Monroe Portland Cement Co. | | |
| Arundel Corporation. | Butler Bin Co. | | | | | | | | | | Montpelier Portland Cement Co. | | |
| Associated Gas & Electric System. | Byllesby Engineering & Management Corp. | | | | | | | | | | Moreau Portland Cement Co. | | |
| Atlanta & West Point Railroad. | | | | | | | | | | | Morris Portland Cement Co. | | |
| Atlantic Creosoting Co. | | | | | | | | | | | Mt. Vernon Portland Cement Co. | | |
| Atlantic, Gulf & Pacific Co. | | | | | | | | | | | Mt. Vernon Portland Cement Co. | | |
| Atlas Car and Manufacturing Co. | | | | | | | | | | | Mt. Vernon Portland Cement Co. | | |
| Audit Company of the South. | | | | | | | | | | | Mt. Vernon Portland Cement Co. | | |
| Austin-Western Road Machinery Co. | | | | | | | | | | | Mt. Vernon Portland Cement Co. | | |
| Ayer & Lord Tie Co. | | | | | | | | | | | Mt. Vernon Portland Cement Co. | | |

LUNKENHEIMER

"KING-CLIP"
Gate Valve

Buy from the local
Lunkenheimer Distributor

THE LUNKENHEIMER CO.

— "QUALITY" —

CINCINNATI, OHIO, U.S.A.

NEW YORK CHICAGO BOSTON PHILADELPHIA

PITTSBURGH SAN FRANCISCO SEATTLE

SPRINGFIELD ST. LOUIS TULSA WASHINGTON

5-61-62

183 ARE "CATERPILLARS"



A RECENT check shows 187 tractors at work on the levees of the Mississippi River between Vicksburg and Deeson—183 are "Caterpillar" track-type Tractors.

Caterpillar Tractor Co.

PEORIA, ILLINOIS, U. S. A.

Track-type Tractors

Combines

Road Machinery

(There's a "Caterpillar" Dealer Near You)

Prices—f. o. b. Peoria, Illinois

| | |
|------------------|-------------------|
| TEN . . . \$1100 | TWENTY . . \$1900 |
| FIFTEEN . \$1450 | THIRTY . . \$2375 |
| SIXTY | \$4175 |

CATERPILLAR
REG. U. S. PAT. OFF.
T R A C T O R

ROAD CONSTRUCTION in GEORGIA



A 1 Yd. Lorain
55 operated by E.
A. Hudson Sons,
Bolton, Ga., on a
road construction
job where full dip-
pers count.

On this machine, Center Drive Simplicity eliminates all unnecessary shafts and gears. That means fewer moving parts, fewer parts to wear. All Thew Lorain machines are built to the famous Center Drive design..shovels, cranes, clamshells, draglines, backdiggers, skimmer-scoops.

THEW LORAIN 45•55•75



THE THEW SHOVEL COMPANY

1514-13 William Oliver Building, Atlanta, Ga. • 1415 Magnolia Building, Dallas, Texas

